

AMB

Wayne H. Jens
Vice President
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**Detroit
Edison**

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September 10, 1984
EF2-69705

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

Dear Mr. Keppler:

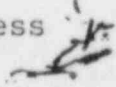
Reference: (1) Fermi 2
NRC Docket No. 50-341
(2) Letter W. H. Jens to J. G. Keppler
April 20, 1984, EF2-67809

Subject: Report of 10CFR50.55(e) Item 134
"Design Deficiency in Use of Bent Conduit"

On August 9, 1984, Detroit Edison's Mr. Lewis P. Bregni, telephoned Mr. J. McCormick - Barger of the NRC Region III to report that the design for some conduit supports in Standard ED of Specification 3071-128 did not include considerations for bent conduit. This discrepancy was discovered during a review of conduit supports relating to 10CFR50.55(e) Item 119, Reference (2).

Description of Deficiency

Specification 3071-128, Standards ED-1-1-8.26 and ED-2-3-4.2 specify criteria for the allowable length of spans containing combinations of rigid and flexible electrical conduit. Giffels Associates, Inc. prepared these standards for Edison approval via Design Change Notice DCN-10513; however, the use of bent rigid conduit was not considered during the development of the standards.

This deficiency was discovered by Detroit Edison's Field Engineering personnel during a review for the structural acceptance of a particular conduit span of length in excess the allowable as required by Specification 3071-128-ED. 

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This span has a bent rigid conduit section and a flexible conduit section. Field Engineering personnel determined that the unistrut clamp at the rigid conduit must resist torsional slip caused by twisting of the conduit at the clamp if the conduit is to be considered seismically acceptable. It was subsequently discovered that no prior research had been done to quantify a unistrut clamp's resistance to torsional slip, or to otherwise review the bent rigid with flexible conduit span case.

Standard ED-2-3-4.2 diagram shows a straight line representing the rigid part of a combined rigid/flexible conduit span. This line was interpreted by field design and inspection staff as representing either a bent or straight rigid conduit sections.

Analysis of Safety Implications

The structural integrity of conduit systems containing combined bent rigid/flexible conduit spans which contain safety related cables cannot be assured for design seismic event conditions.

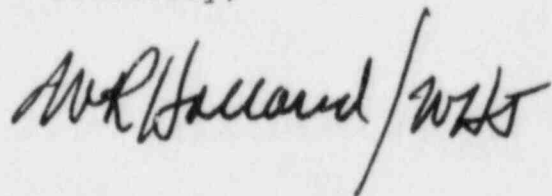
Corrective Action

The Detroit Edison Engineering Research Department (ERD) has been requested to test clamped conduit samples of sizes used on site so that the torsional resistance of clamped connections to conduit twist can be determined.

Giffels Associates Incorporated has been requested to qualify combined bent rigid/flexible conduit spans based on the ERD data for worst case conditions.

Another report on this item, either interim or final, will be sent when further information is available. If you have questions concerning this matter, please contact Mr. Lewis P. Bregni, (313) 586-5083.

Sincerely,

A handwritten signature in dark ink, appearing to read "A. R. Halland" followed by a large, stylized flourish or initials.

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