PDR

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EF2-49,877

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

Subject: Interim Report of 10CFR50.55(e) Item on Traversing In-Core Probe System (#36).

Dear Mr. Keppler:

On December 29, 1980, Detroit Edison's Mr. H.A. Walker, Supervisor-Construction Quality Assurance, telephoned Mr. R. Knop of the NRC - Region III to report on a problem with Traversing In-Core Probe System at the Fermi 2 Site.

Engineering investigation indicates that the traversing in-core probe instrument tube design is deficient. This determination was made by Project Design and Field Engineering during the course of a review of thermal movements associated with the primary containment liner during a loss of coolant accident (LOCA).

Description of Deficiency

The instrument tube (3/8 O.D. stainless steel) connecting the isolation valve and the primary containment penetration was designed without due consideration for thermal movement during a LOCA. This tube provides part of the primary containment boundary during containment isolation. Analysis of the thermal movements associated with the primary containment liner and penetration during a LOCA indicates that this tube is over stressed and may rupture thus breaching primary containment.

Action Taken

The computer analysis performed on the instrument tubing design to determine the stress level is based on a non-linear system. Engineering judgement indicates that the instrument tube will be subjected to bending but may not rupture. Therefore, the follow-up action is to determine, by test, if indeed the tube does rupture. The Detroit Edison Engineering Research Department will mock-up the existing design and perform tests based on the thermal movement associated with a LOCA. These tests will be documented to provide a basis for acceptance/verification of the existing design.

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A final report is scheduled to be submitted to you by April 27, 1981. If you have questions concerning this matter, please contact Mr. H.A. Walker, Supervisor-Construction Quality Assurance.

Very truly yours,

Edward Hines

EH/HAW/cp

cc: Mr. Victor Stello, Jr., Director
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Division of Reactor Inspection Programs
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