

B. Ralph Sylvia  
Group Vice President

**Detroit  
Edison**

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

March 12, 1988  
NRC-88-0036

Director, Office of Enforcement  
U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

- References: (1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43
- (2) Notice of Violation and Proposed Imposition of  
Civil Penalty (NRC Inspection Report No.  
50-341/87049) dated February 11, 1988
- (3) Inspection Report No. 50-341/87049 dated  
December 17, 1987
- (4) Licensee Event Report 87-045 dated October 8,  
1987

Subject: Reply to a Notice of Violation

Detroit Edison's response to reference 2 entitled "Reply to a Notice of Violation" is enclosed. This response addresses the issues specified in that reference.

In addition, the cover letter for reference 2 required that Detroit Edison describe its basis for having confidence that other significant electrical design problems have not gone undetected. As part of its pre-operational test program the auxiliary electrical power system, the emergency diesel generators, the 120 VAC instrument and control power system, the 130/260 VDC power system and the 24/48 VDC power system were successfully tested as described in Chapter 14 of the UFSAR.

8803210029 880312  
PDR ADOCK 05000341  
Q DCD

REC'D W/CHECK  
# 017032

IE14  
11

Director, Office of Enforcement  
U. S. Nuclear Regulatory Commission  
NRC-88-0036  
Page 2

In 1986, a design calculation review program was initiated. This program verified that the QA-1 design calculations were consistent with the base design documents. A Safety System Functional Inspection, which included the electrical interfaces for the High Pressure Injection Coolant System, performed in 1987, identified two electrical design concerns both of which were resolved.

An informal review of the affects of loss of a single division of DC power on other buses was performed during the resolution of the design deficiency for Swing Bus 72CF. Other than the lack of redundancy for the load shedding string for Bus 72C, no significant electrical design problems were found.

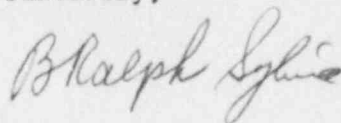
The swing bus is unique within the Fermi 2 auxiliary system for two reasons. It represents the only connection between the two safety related divisions at the 480 volt level and it is the only automatic Class 1E throwover scheme. The Swing Bus 72CF design deficiency was a unique problem with the implementation of the system design. The design basis of the system was correct.

These actions, along with use of design verification as required by procedure in the design modification program for future changes, should ensure the safety related electrical systems do not contain significant design deficiencies.

Payment of the fine is enclosed.

If you have any questions, please contact Patricia Anthony at (313) 586-1617.

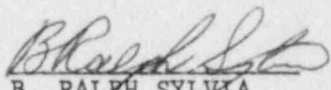
Sincerely,



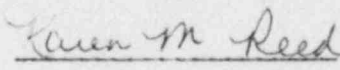
cc: A. B. Davis  
E. G. Greenman  
T. R. Quay  
W. G. Rogers  
Region III

Director, Office of Enforcement  
U. S. Nuclear Regulatory Commission  
NRC-88-0036  
Page 3

I, B. RALPH SYLVIA, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

  
B. RALPH SYLVIA  
Group Vice President

On this 12th day of March, 1988, before me personally appeared B. Ralph Sylvia, being first duly sworn and says that he executed the foregoing as his free act and deed.

  
Notary Public

KAREN M. REED  
Notary Public, Monroe County, Mich.  
My Commission Expires May 14, 1990

Statement Of Violation

The automatic throwover function associated with Swing Bus 72CF did not meet the requirements of 10CFR50 Appendix B Criterion III for design control. The automatic throw-over function did not provide adequate protection to satisfy the "no single failure" criterion as had been stated in the Updated Final Safety Analysis Report.

Admission or Denial of the Alleged Violation

Detroit Edison concurs that the item specified was in violation of 10CFR50 Appendix B Criterion III.

Cause of Violation

This design deficiency, detected by Detroit Edison, was caused by an inadequacy in the assumptions of the previous design basis analysis. In the analysis of a Loss of Coolant Accident coincident with a Loss of Offsite Power where a single failure of part or all of one division of DC power occurs, the analysis did not correctly consider the response of Bus 72CF and its associated breakers. It had been assumed that the bus would successfully transfer automatically.

Corrective Actions Taken and Results Achieved

A design change was implemented and tested which brought the Swing Bus 72CF and its associated equipment into compliance with the single failure criteria. In conjunction with the design change, procedures potentially impacted by the change were reviewed. Revisions were made to these procedures as appropriate.

In order to increase the operator's awareness of the impact this design deficiency had on the plant and how the deficiency was resolved, engineering provided informal training on the history of Swing Bus 72CF and its modification to operations personnel.

Corrective Actions to Avoid Further Violations

This is the only safety related application of a swing bus at Fermi II. Therefore, a similar automatic throwover function is not used in other safety related power supplies.

Corrective Actions to Avoid Further Violations (Cont.)

A failure modes and effects analysis was performed for the modified swing bus. Based on this analysis, another design deficiency was found. The undervoltage load shedding string for Bus 72C did not meet the single failure criteria. This condition was corrected when the swing bus was modified. Also, an operational analysis of the modified swing bus's response to various accident scenarios was performed. The response was found to be acceptable.

Design modifications are performed in accordance with approved procedures. These procedures require that appropriate design calculations and verifications are performed to evaluate the modifications. Therefore, a similar design deficiency should not be created by any future modifications.

Date When Full Compliance Will Be Achieved

Fermi II has been in full compliance with the design basis analysis since completion of the modification to Swing Bus 72CF on October 6, 1987.