

Detroit  
Edison

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Nuclear  
Operations

January 27, 1992  
NRC-92-0013

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

References: 1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43  
  
2) NRC Generic Letter 91-11, Resolution of Generic  
Issues 48, "LCOs for Class 1E Vital Instrument  
Buses," and 49, "Interlocks and LCOs for Class 1E  
Tie Breakers", dated July 18, 1991

Subject: Detroit Edison Response to Generic Letter 91-11

This letter provides Detroit Edison's response to Generic Letter 91-11 (Reference 2) which was received on August 1, 1991. This Generic Letter provided resolution of Generic Issues 48 and 49, and required a response within 180 days of the receipt of the Generic Letter. The response is required to provide the NRC with certification that Detroit Edison has either implemented the appropriate procedures conforming to the guidance provided with the Generic Letter or has prepared justification that such procedures are not needed.

Detroit Edison has reviewed Generic Letter 91-11 and hereby certifies that appropriate procedures or equivalent measures already exist at Fermi 2 in resolution of Generic Issues 48 and 49 as recommended in the Generic Letter. The enclosure to this letter provides the detailed response to Generic Letter 91-11.

If you have any questions, please contact Mr. Girija S. Shukla at (313) 586-4270.

Sincerely,

Enclosure

cc: T. G. Colburn  
A. B. Davis  
R. W. DeFayette  
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I, WILLIAM S. ORSER, 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.

William S. Orser  
WILLIAM S. ORSER  
Senior Vice President

On this 27th day of January, 1992, before me personally appeared William S. Orser, being first duly sworn and says that he executed the foregoing as his free act and deed.

Rosalie A. Arnetta  
Notary Public



DETROIT EDISON'S RESPONSE TO  
GENERIC LETTER 91-11

Generic Letter 91-11 recommended that for resolution of Generic Issues 48, "LCOs for Class 1E Vital Instrument Buses" and 49, "Interlocks and LCOs for Class 1E Tie Breakers" procedures that include time limitations and surveillance requirements should be implemented for (i) vital instrument buses, (ii) inverters or other onsite power sources to the vital instrument buses, and (iii) tie breakers that can connect redundant Class 1E buses (ac or dc). If such procedures are not implemented, the basis for not implementing the procedures should be adequately evaluated and a justification should be prepared.

To ensure compliance with the resolution of Generic Issues 48 and 49 as recommended in Generic Letter 91-11, Detroit Edison has performed an investigation to verify implementation of procedures that include allowable out-of-service time limitations and surveillance requirements for the above mentioned items identified under recommended actions in the Generic Letter. The results of the investigation are as follows:

o Vital Instrument Buses:

In Generic Letter 91-11, "Vital Instrument Buses" refers to the ac buses that provide power for the instrumentation and controls of the engineered safety features (ESF) systems and the reactor protection system (RPS) and are designed to provide continuous power during postulated events including the loss of normal offsite power.

There are two types of these vital instrument buses at Fermi 2. Their allowable out-of-service time limitations and surveillance requirements are given below.

- (a) There are two Class 1E 120 V ac power supplies each serving one division and powered by a 45 KVA modular power unit (MPU). Their allowable out-of-service time limitations and surveillance requirements are established by Fermi 2 Technical Specifications Section 3/4.8.3.1 and 3/4.8.3.2. The surveillance requirements are also specified in associated plant procedures.
- (b) The Reactor Protection System (RPS) consists of two trip systems designated as A and B. RPS trip system A is normally powered by RPS Motor-Generator (MG) Set A, with a backup 120V ac source from an alternate feed transformer. Power to both the normal and alternate feeds of trip system A is supplied from Division 1 ac

power. Similarly, RPS trip system B is normally powered by RPS MG Set B, with a backup 120V ac source from an alternate feed transformer. Power to the normal and alternate feeds of trip system B is supplied from Division 2 ac power.

The individual RPS bus allowable out-of-service time limitations and surveillance requirements are indirectly established by Fermi 2 Technical Specification Section 3/4.3.1, by requiring operability of instruments powered by the bus. The bus is required to be operable for the instruments to function. If the bus is out of service, the instruments will not pass their surveillance tests. The instrumentation will then be declared inoperable and the Technical Specification Action Statement entered. Therefore, the surveillances of the instrumentation also serve as surveillance of whether the bus is operating and the Instrumentation Action Statements provide Action Statements for the bus being out of service.

Out-of-service time limitations are not established for each power supply to each RPS trip system bus. Since each of the power supplies for a bus are provided by the same division of ac power, there is no concern about the RPS system being reliant on one division of power if one of the power supplies to a bus is inoperable. The redundancy in power source is provided by supplying power to each RPS trip system from a different division. In addition to being detected by surveillances on RPS instrumentation, loss of power to an RPS bus generates a half scram signal in the Control Room.

o Inverters:

In addition to the above 120V ac systems, there are 12 Class 1E inverters at Fermi 2. Ten of these inverters are used to provide power to indicating and recording instruments and controls. Each of these inverters have at least one associated instrument specified in Fermi 2 Technical Specifications. The inverter allowable out-of-service time and surveillance requirements are indirectly established by Fermi 2 Technical Specifications by specifying allowable out-of-service time and surveillance requirements for the instruments powered by the inverters. For the instrument to function, the inverter is required to be operable. In addition, existing preventive maintenance activities verify inverter performance in accordance with procedure NPP 46.000.174, "Calibration of Topaz Static Inverters."

The other two inverters are associated with the fan brakes on the mechanical draft cooling towers of the ultimate heat sink which are required support equipment during some situations. During the situations when the support equipment is required to be operable to provide its support function, the allowable out-of-service time of the supported Technical Specification equipment applies to the support equipment and also to the inverter which supplies its power. During other times, no allowable out-of-service time limitation exists, nor is it needed since the inverter is supplying equipment not required to be operable. The calibration of the RHR cooling tower fan over-speed protection system would identify if an inverter had failed and so serves to determine if the inverters are functioning.

o Tie Breakers:

Fermi 2 has two maintenance tie breakers that can connect redundant Class 1E buses. These tie breakers are required to be open during Operational Conditions 1, 2, and 3 by Fermi 2 Technical Specification Section 3.8.3.1. Procedure NPP 24.000.02, "Shiftly, Daily, and Weekly Required Surveillances" requires verification that these tie breakers are open during plant operation in accordance with Technical Specification Section 4.8.3.1.1 which requires a breaker alignment verification at least once per 7 days. In addition, procedure NPP 23.321, "Engineered Safety Features Auxiliary Electrical Distribution System" restricts closure of these tie breakers during normal reactor operation and allows closure only during cold shutdown and refueling conditions.

Thus, based on the above discussed investigation Detroit Edison has concluded that appropriate procedures or measures already exist at Fermi 2 in resolution of Generic Issues 48 and 49 as recommended in Generic Letter 91-11.