Wayne H. Jens
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December 31, 1985
VP-85-0237

Director of Nuclear Reactor Regulation
Attn: Ms. Elinor G. Adensam, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

Reference: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC to Detroit Edison Letter, "Isolation Requirements for Primary Containment Penetration X-35G", dated November 21, 1985

Subject: Traversing In-Core Probe Purge Line (Penetration X-35G)

Reference 2 indicated that the design of the traversing in-core probe (TIP) nitrogen purge line did not comply with General Design Criterion (GDC) 56. The following presents the basis for the current system design, as well as a description of the design modifications that Detroit Edison commits to implement in the short and long term.

In October 1983 Detroit Edison submitted Amendment 51 to the Fermi 2 FSAR. Section 6.2.4.4.2.2.1 and Table 6.2-2 of the FSAR were revised to include a description of penetration X-35G, the Traversing Incore Probe (TIP) nitrogen purge line penetration. Note 30 of Table 6.2-2 was added in Amendment 51 indicating that the TIP purge line was classified as an instrument line. The isolation design complied with the NRC's guidance for instrument lines in that it provided a check valve outside containment in compliance with Paragraph C.2.a of Regulatory Guide 1.11.

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Add:
EB (LIAW)
PSB (L. HULMAN)
EICSB (SRINIVASAN)
RSB (ACTING)
FOB (VASSALLO)
AD - G. LAINAS (Ltr only

The classification as an instrument line was deemed acceptable since the line is of small diameter (i.e., 3/8 inch), does not qualify as an ASME Code process line, and while it does not transmit an analog instrument signal, does service the TIP instrument system. As reflected in the FSAR, the design of this line follows the recommendations of Regulatory Guide 1.11 which provides acceptable alternatives to the isolation requirements of General Design Criteria (GDC) 55 and 56 for instrument lines. (Instrument lines are explicitly exempted from the requirements of NUREG-0737, Item II.E.4.2 which imposes specific isolation requirements on nonessential penetrations).

As noted above, the NRC indicated in Reference 2 that this line is to be designed in accordance with GDC 56. Detroit Edison thereby commits to revise the isolation design of this line to comply with GDC 56. Compliance with GDC 56 allows the installation of a containment isolation valve outside of containment and a containment isolation or check valve inside of containment. Detroit Edison will install a check valve inside of containment and have at least one containment isolation valve outside of containment. In accordance with GDC 56 the isolation valve will receive diverse isolation signals.

Due to the scope of this modification, and the lead time included in the design and procurement activities involved, full compliance with GDC 56 cannot be achieved until the first scheduled refueling outage without significantly delaying restart from the current outage, or impacting later startup or operations activities. Detroit Edison estimates that development of the design, procurement and installation of this modification will require approximately 6 months. This includes seismic design, procurement of nuclear quality components, and installation of appropriate seismic supports. Installation during the current outage would require reentry into the drywell and extension of the outage.

Therefore, Detroit Edison proposes to install an interim modification to the TIP nitrogen purge line that will provide an enhanced isolation design, though not provide full compliance with GDC 56. Two ball valves outside of primary containment will be installed on the TIP purge line prior to restart from the current outage. These two valves will be QA level 1 and will be powered from, and receive containment isolation signals (i.e., reactor vessel level 3 and high drywell pressure) from the same circuits which power and isolate the ball valves for the balance of the TIP system containment isolation valves. Upon loss of power, the valves have spring-actuated closure to ensure failure in the safe position. In addition, these valves will be seismically mounted. Following installation, a local leak rate test per 10CFR50, Appendix J will be performed, and the valves will undergo a functional test to assure operability.

Due to the fact that the interim modification presented above does not provide full compliance with the inboard/outboard isolation valve requirements of GDC 56, Detroit Edison requests an exemption from the requirements of GDC 56 for the TIP nitrogen purge line in accordance with 10CFR50.12. The exemption is requested to allow reactor restart and operation with the identified interim modification until the first scheduled refueling outage.

Significant Hazards Analysis

Detroit Edison requests that Fermi 2 Operating License NPF-43 be amended to reflect the exemption requested from GDC 56 to allow operation from restart from the current outage until the first scheduled refueling outage. The proposed license amendment has been reviewed by Detroit Edison and does not involve a significant hazards consideration, in accordance with 10CFR50.92.

a) The interim modification does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed design modification will provide a system which more closely matches the requirements of GDC 56, per the incorporation of two ball valves with containment isolation and redundant fail - closed capability. The enhanced isolation design will provide a more reliable barrier.

b) The interim modification will not create the possibility for a new or different kind of accident from any accident previously evaluated. The interim modification uses the same type ball valve and isolation signals as is presently used for the balance of the TIP system.

c) The interim modification does not involve a significant reduction in a margin in safety. In fact, the redundant isolation valve configuration will enhance the existing margin of safety.

The interim modification will have no adverse effect on the health and safety of the public nor the environment in that the isolation capability for the TIP nitrogen purge line will be enhanced by the interim modification.

Detroit Edison has evaluated this request in accordance with the criteria in 10CFR170.21 and has enclosed an application fee of one hundred fifty dollars ($150.00) as initial payment for this application for amendment under Facility Category A (Power Reactors).

In accordance with 10CFR50.91, the State of Michigan has been provided a copy of this letter.

Direct any questions to Mr. Robert L. Woolley at (313) 586-4211.

Sincerely,

Dayne H. Jens

With attachment

cc: Mr. P. M. Byron
Mr. J. C. Lane
Mr. M. D. Lynch
Supervisor, Advance Planning and Review Section
Michigan Public Service Commission
USNRC Document Control Desk
Washington, D.C. 20555

I, WAYNE H. JENS, 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.

Wayne H. Jens

WAYNE H. JENS
Vice President
Nuclear Operations

On this 31st day of December, 1985, before me personally appeared Wayne H. Jens, being first duly sworn and says that he executed the foregoing as his free act and deed.

Marcia Buck

Notary Public

MARCIA BUCK
Notary Public, Washtenaw County, MI
My Commission Expires Dec. 28, 1987

acting in Monroe County, Mi