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October 22, 1984
EF2-72283

Director of Nuclear Reactor Regulation
Attention: Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Youngblood:

Reference: Fermi 2
NRC Docket No. 50-341

Subject: Request for Exemption to Appendix J

In accordance with the Code of Federal Regulations, Title 10, Part 50.12, the Detroit Edison Company (DECo) hereby requests an exemption to the requirements of Appendix J to 10CFR50, Parts III.C.1 and III.C.2 for Type C testing the main steam isolation valves at Fermi 2. The exemption request is necessary due to the design configuration at Fermi 2 and is typical for BWR's. The alternative means of meeting these rules discussed below promotes the same level of safety and meets the intended purpose of the rules.

The design of the main steam isolation valve system at Fermi 2 is such that Type C testing must be performed by pressurizing the volume between each pair of isolation valves with air and measuring the amount of make up air required to maintain test pressure. This method requires testing the inboard isolation valves in a direction opposite to that which would apply during DBA LOCA conditions. This is contrary to the requirements of Appendix J to 10CFR50, Part III.C.1, which requires that the pressure be applied in the same direction as that when the valves would be required to perform their safety function. However, since the main steam isolation valves are simple globe valves, reverse testing is conservative. Test pressure is applied under the seats, which tends to unseat the valves, while LOCA pressure is on top of the seats which tends to seat the valves.

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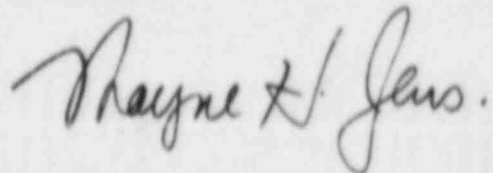
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Edison proposes to Type C test the main steam isolation valves at a differential pressure of 25 psi at 25 psig (reactor at atmospheric pressure). Appendix J to 10CFR50, Part III.C.2 requires that the test pressure be greater than or equal to 62.2 psig (1.10 Pa). Testing is performed at 25 psid because the inboard isolation valves will lift at a slightly higher differential pressure. Lifting is due to the pressure being applied under the seat. However, it is the differential pressure and not the absolute test pressure which is important during this test. Following a DBA LOCA, the main steam isolation valve leakage control system is initiated. (The main steam isolation valve leakage control system is described in Appendix 9A of the Fermi 2 FSAR.) This system will maintain the volume between each pair of isolation valves at 2 to 6 psi above containment pressure. Any valve leakage will be into and not out of the containment. A containment infiltration analysis has been performed and is described in Appendix E.5 of the FSAR, items 310.16 and 310.23. Testing at 25 psid is conservative since the leakage at 2 to 6 psid will be less than the leakage at 25 psid.

Accordingly, the alternative means of implementing Sections III.C.1 and III.C.2 of 10CFR50, Appendix J for the main steam isolation valves as discussed above meet the intended purposes of these rules and Detroit Edison requests that this exemption be granted.

Should you have any further questions, please contact Mr. O. Keener Earle (313) 586-4211.

Sincerely,



cc: Mr. P. M. Byron
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