

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
DETROIT EDISON COMPANY )  
WOLVERINE POWER SUPPLY COOPERATIVE, )  
INCORPORATED )  
 )  
(Fermi-2) )

Docket No. 50-341

EXEMPTION

I.

Detroit Edison Company (DECo) and the Wolverine Power Supply Cooperative, Incorporated (the licensees) are the holders of Facility Operating License No. NPF-43 which authorizes the operation of the Fermi-2 facility at steady-state power levels not in excess of 3292 megawatts thermal. The license provides, among other things, that it is subject to all rules, regulations and Orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility is a boiling water reactor (BWR) located at the licensees' site in Monroe County, Michigan.

II.

10 CFR Part 50, Appendix J, Section III.D.3, states:  
Type C tests. Type C tests shall be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years.

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The tests would become due at Fermi-2 for the isolation valves which are the subject of this Exemption on April 28, 1988. The tests necessary to meet this section of Appendix J to 10 CFR Part 50 are required by Technical Specification 4.6.1.2.b of the Fermi-2 Technical Specifications.

### III.

By letter dated February 22, 1988, the licensees requested an exemption from Section III.D.3 of Appendix J to 10 CFR Part 50 for certain Residual Heat Removal (RHR) shutdown cooling isolation valves. The licensees requested that the initial 24-month testing interval for three RHR shutdown cooling inboard isolation valves (E11-F009, E11-F408, E11-F608) be extended on a one-time basis until the first refueling outage which should be no later than the end of 1989.

The licensees have indicated that performing the leak testing on these three valves will require one or both of the following plant conditions:

- a) Reactor vessel head removal;
- b) Both RHR shutdown cooling loops rendered inoperable.

The licensees have currently scheduled the next reactor head removal operation to occur during the first refueling outage. To render both loops of RHR shutdown cooling inoperable, the licensees would either be required to remove the drywell and reactor heads and flood the vessel, or wait until decay heat is reduced such that the reactor could be cooled by alternate means. No planned outages of this duration will occur until the first refueling outage.

The first refueling outage is scheduled at the end of 1989. Reactor head removal and a reactor coolant boundary leakage test will be required during this outage. Performance of the leak tests for the containment isolation valves during this outage would bring the test schedule into alignment with the fuel cycle. Thus, the licensees indicated that the time to perform the required testing has been accounted for in planning the first refueling outage.

The two-year testing intervals for containment isolation valves are intended to be often enough to prevent significant deterioration from occurring and long enough to permit LLRTs to be performed during plant outages. This provides assurance that the overall containment leakage limits will not exceed the value assumed in the accident analysis, even when accounting for possible degradation of the leakage barriers between leakage tests.

The licensees have stated that the three RHR shutdown cooling valves, which are the subject of this one-time exemption to the Appendix J testing interval, were all tested successfully on August 27, 1984, during pre-operational testing, resulting in a combined penetration leakage of 0.35 scfh, on May 28, 1985, resulting in a combined penetration leakage of 1.59 scfh, and on April 28, 1986, resulting in a combined leakage of 1.68 scfh. The total of the Type C leakage rates for these valves in the last test is not a significant portion (0.94%) of the allowable leakage limit (0.6La). These valves have not been refurbished since they were first tested and the values reported represent all the leak test data on these valves.

The RHR shutdown cooling inboard isolation valves are normally closed at power operation and any deterioration in the overall integrity of these

valves is expected to be a gradual process. The licensees stated that the RHR system is monitored for leakage per the Fermi-2 Leakage Reduction Program. This program is required by plant Technical Specification 6.8.5 and requires measuring and recording any leakage from the system and its components during operation in various operating modes. Considering this and the small number of valves (three) involved, there is nothing found in the information which would indicate that the one-time interval extension of about 18 to 20 months for these RHR shutdown cooling inboard isolation valves would have a sudden detrimental effect on the overall leak rates of the valves involved.

In support of the requirements of 10 CFR Part 50.12 for demonstration that special circumstances exist with respect to the requested exemption, the licensees have stated that pursuant to 10 CFR 50.12(a)(2), (ii) and (iv), the following special circumstances exist:

50.12(a)(2)(ii) - Application of the 10CFR50, Appendix J requirements in this situation for testing within two years would not serve the underlying purpose of the regulation, which is to ensure testing after two years in an operating environment. Since Fermi 2 did not exceed 5% power until September 1986 and 50% power until December 1987, none of the valves in question will have been exposed to a significant operating pressure environment. The core average exposure through February 22, 1988 was only 112 EFPD. This is compared to approximately 335 EFPD remaining in the cycle. The requested extension of time does not conflict with the intent of the rule and defers the testing requirement intended by 10CFR50, Appendix J to the first refueling outage.

50.12(a)(2)(iv) - The requested exemption would result in benefit to the public health and safety that compensates for any decrease in safety that may result from the granting of the exemption. The increased benefit would be from not having to remove both loops of RHR from operation in order to perform the testing from which Detroit Edison is asking to be exempted. Removal of both RHR loops necessitates reliance solely on alternate means of reactor core cooling (decay heat removal).

The Commission's staff has reviewed the licensees' description of the special circumstances relative to this exemption request and has

determined that special circumstances as required by 10 CFR 50.12 do exist.

Furthermore, the Commission's regulations in 10 CFR 50.12(a)(2)(v) state that special circumstances exist when the exemption would provide only temporary relief from the applicable regulation and that the applicant or licensee has made good faith efforts to comply with the regulation. The requested exemption is a one-time schedular exemption to delay LLRTs for three RHR shutdown cooling inboard isolation valves until the first refueling outage. The licensees will complete LLRTs of all other containment isolation valves involving several hundred valves. However, due to plant constraints it is not possible to complete testing on these remaining three valves during the LLRT outage without significantly extending the outage for the sole purpose of conducting these LLRTs. The staff has determined that the licensees have demonstrated a good faith effort to comply with the Appendix J requirement to conduct LLRTs on containment isolation valves.

#### IV.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the requested exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Further, the Commission finds that special circumstances are present in that the requested exemption is temporary in nature and the licensees have made a good faith effort to comply with

the regulation. Therefore, the Commission hereby grants the following Exemption from the requirements of Section III.D.3 of Appendix J to 10 CFR Part 50:

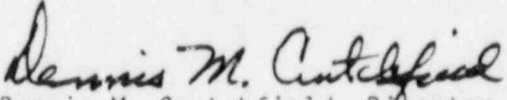
The two-year limit on the Type C testing interval for the three valves (E11-F009, E11-F408 and E11-F608) is extended on a one-time basis until prior to startup from the first refueling outage for Fermi-2 which should be no later than the end of 1989.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this Exemption will have no significant impact on the environment (53 FR 12616).

For further details with respect to this action, see DECo's request dated February 22, 1988, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555 and at the Monroe County Library System, 3700 South Custer Road, Monroe, Michigan 48161.

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Dennis M. Crutchfield, Director  
Division of Reactor Projects - III,  
IV, V & Special Projects

Dated at Rockville, Maryland,  
this 15th day of April 1988