



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 31, 1986

Docket No. 50-341

Mr. B. Ralph Sylvia
Group Vice President
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

Dear Mr. Sylvia:

Subject: Issuance of an Exemption to General Design Criterion
56 of Appendix A to 10 CFR Part 50

The U.S. Nuclear Regulatory Commission has issued the enclosed exemption from a provision of General Design Criterion 56 of Appendix A to 10 CFR Part 50 for the Fermi-2 facility located in Monroe County, Michigan. This exemption for the Fermi-2 facility has been issued in response to your request in your letter dated December 31, 1985.

The exemption permits postponement of full compliance with GDC 56 for the traversing in-core probe (TIP) nitrogen purge line until the first scheduled refueling outage.

Our safety evaluation of your request is incorporated into Section III of the exemption (Enclosure 1). Also enclosed is a copy of our Notice of Environmental Assessment and Finding of No Significant Impact which was published in the Federal Register on July 28, 1986.

Sincerely,

A handwritten signature in cursive script that reads "Elinor G. Adensam".

Elinor G. Adensam, Director
BWR Project Directorate No. 3
Division of BWR Licensing

Enclosures:

1. Exemption from GDC 56
2. Notice of Environmental Assessment

cc: See next page

8608070232 860731
PDR ADOCK 05000341
P PDR

Mr. B. Ralph Sylvia
Detroit Edison Company

Fermi-2 Facility

cc:

Mr. Harry H. Voigt, Esq.
LeRoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N. W.
Washington, D. C. 20036

Ronald C. Callen
Adv. Planning Review Section
Michigan Public Service Commission
6545 Mercantile Way
P. O. Box 30221
Lansing, Michigan 48909

John Flynn, Esq.
Senior Attorney
The Detroit Edison Company
2000 Second Avenue
Detroit, Michigan 48226

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. Dennis R. Hahn, Chief
Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
P. O. Box 30035
Lansing, Michigan 48909

Mr. Robert Woolley
Acting Supervisor-Licensing
The Detroit Edison Company
Fermi Unit 2
6400 No. Dixie Highway
Newport, Michigan 48166

Mr. Walt Rogers
U. S. Nuclear Regulatory Commission
Resident Inspector's Office
6450 W. Dixie Highway
Newport, Michigan 48166

Monroe County Office of Civil
Preparedness
963 South Raisinville
Monroe, Michigan 48161

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 or the licensee) is the holder 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 the facility 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 licensee's site in Monroe County, Michigan.

II.

The NRC staff identified a concern with the design features of the 3/8-inch nitrogen purge line associated with the traversing in-core probe (TIP) system, in a letter dated November 21, 1985. The then current design of this line, identified as penetration X-35G in Table 6.2-2 of the Fermi-2 FSAR, was based on the classification of this penetration of primary containment by the licensee as an instrument line. This classification, if accepted by the NRC staff, would permit the licensee to install only a single check valve outside containment consistent with the guidelines in Section C.2.a of Regulatory Guide 1.11. That was the valving configuration for the subject penetration at that time.

The NRC staff disagreed with the licensee's classification for the subject containment penetration on the basis that while this line was indeed a portion

of an instrument system, the line itself did not in any manner provide any function that remotely corresponds to the function of an instrument line.

In point of fact, the only purpose for this line is to remove any oxygen from the TIP system inside containment by purging this system with nitrogen. Thereafter, this line must be secured in such a fashion to maintain the nitrogen atmosphere in that portion of the TIP system inside containment. In the event of any condition which would generate an isolation signal, this line must isolate and remain closed until such time as the isolation signal is cleared.

Considering both the function and the operational requirements of this containment penetration, the NRC staff concluded that this line cannot be classified as an instrument line. (An instrument line might be expected to be operable in the event of an accident so as to follow the course of the accident; this is clearly not the intended function of penetration X-35G.) Accordingly, it is the staff's position that this penetration must comply with the provisions of General Design Criteria (GDC) 55 and 56 regarding the installation of isolation valves.

In response to the NRC staff position on this matter, the licensee committed in its letter dated December 31, 1985, to revise the design features of penetration X-35G to comply with GDC 56. (The requirements for isolation valves in GDC 55 are identical to those in GDC 56.) Specifically, the licensee committed to install a check valve inside containment and an automatic isolation valve outside containment. The automatic isolation valve will receive diverse isolation signals. While the NRC staff finds that the proposed modification described above complies with the criteria in GDC 56 to install one valve inside and one valve outside containment, our evaluation of the acceptability of the proposed long-term

modification cannot be completed until we receive additional information from the licensee regarding placement of the outboard isolation valve and the types of isolation signals which will actuate the automatic valve.

Because of the scope of this modification, the lead time to design this installation and the subsequent procurement of components, the licensee states, in its letter of December 31, 1985, that it cannot implement its commitment, cited above, until the first scheduled refueling outage without significantly delaying restart of the facility. (Restart of the Fermi-2 facility is presently estimated by the licensee to occur in late July 1986.) For this reason, the licensee proposed in its letter of December 31, 1985, to install an interim modification to the subject containment penetration which will provide a significantly increased containment isolation capability over that of the prior design.

This interim modification consists of two automatic ball valves outside primary containment. The valves and their installation will be in compliance with the quality assurance criteria for safety-related components and will isolate automatically on receipt of either of two diverse containment isolation signals; i.e., a signal indicating that: (a) the reactor vessel water level has fallen below Level 3; or (b) there is a high drywell pressure. Upon loss of power, these two ball valves will be closed by springs.

Because the proposed interim modification is not in full compliance with all the provisions of GDC 56, the licensee has requested an exemption from GDC 56 in accordance with 10 CFR 50.12 until it is able to come into full compliance with GDC 56 at the first scheduled refueling outage.

III.

The two automatic ball valves proposed by the licensee for an interim modification of penetration X-35G meet nearly all the applicable NRC staff requirements

for components serving as part of the reactor vessel pressure boundary. Namely, they will be: (1) designed, manufactured and installed to the appropriate quality assurance standards; (2) actuated by diverse signals; (3) closed by springs on loss of power which is in compliance with the requirements of GDC 56; (4) designed and installed to seismic Category I criteria; and (5) leak tested per Appendix J to 10 CFR Part 50. The proposed interim modification differs from the requirements of GDC 56 only in that it does not include one valve inside containment. We find, however, that the proposed interim modification provides a containment isolation capability comparable to that required by GDC 56.

On the basis that the proposed interim modification of primary containment penetration X-35G will be for a limited time period and provides containment isolation capability comparable to that required by GDC 56, we find that the proposed exemption from GDC 56 poses no increase in risk to public health and safety. On this basis, we find that the proposed interim exemption from the requirement in GDC 56 of Appendix A to 10 CFR Part 50 to have one isolation valve inside and one isolation valve outside, is acceptable.

IV.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, this 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. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(v), are present justifying the exemption, namely that the exemption would provide only temporary relief from the applicable regulation and the licensee has made good faith efforts to comply with the regulation. The good faith effort by the licensee is demonstrated by its relatively prompt response

to the NRC staff's position on this matter. The staff informed the licensee of its position in a letter dated November 11, 1985; the licensee acknowledged the staff's position on December 2, 1985, provided a commitment to comply with the provisions of GDC 56 in its letter dated December 20, 1985, and submitted its proposal for an interim and long-term resolution of this matter on December 31, 1985. As discussed in Section III, the licensee has indicated in its letter of December 31, 1985, that the time required to design, procure and install the long-term modification prevents it from implementing its commitment prior to the first refueling outage. Based on this prompt response and the licensee's commitment to implement the long-term resolution at the earliest practical opportunity (i.e., the first scheduled refueling outage), the Commission concludes that the licensee has made a good faith effort to come into compliance with the requirements of GDC 56. Therefore, the Commission hereby approves the following exemption:

With respect to the requirement in General Design Criterion 56 to provide each line that connects directly to the containment atmosphere and penetrates primary reactor containment, with two containment isolation valves, one inside and one outside containment, exemption is granted from this requirement for penetration X-35G for a limited period not extending beyond the first scheduled refueling outage.

The Commission has further determined that the exemption does not authorize a change in effluent types or total amounts of effluents nor an increase in power level and will not result in any significant environmental impact. In light of this determination, and as reflected in the Notice of Environmental Assessment and Finding of No Significant Impact prepared pursuant to 10 CFR 51.21 and 51.30

through 51.32, it is concluded that the instant action is insignificant from the standpoint of environmental impact and an environmental impact statement need not be prepared.

For further details with respect to this action, see the licensee's request dated December 31, 1985, 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.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this Exemption will have not significant impact on the environment (51 FR 26959 dated July 28, 1986).

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Gus Lainas, Acting Director
Division of BWR Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 31st day of July 1986

UNITED STATES NUCLEAR REGULATORY COMMISSIONDETROIT EDISON COMPANYWOLVERINE POWER SUPPLY COOPERATIVE, INCORPORATEDDOCKET NO. 50-341NOTICE OF ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an exemption from the requirements of General Design Criterion 56 of Appendix A to 10 CFR Part 50 to the Detroit Edison Company (DECo or licensee), holder of Facility Operating License No. NPF-43 which authorizes operation of the Fermi-2 facility. The facility is a boiling water reactor and is located in Monroe County, Michigan.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action: The exemption would allow, for a limited period, a single penetration of the containment to have two isolation valves outside containment rather than one valve inside and one valve outside as required by General Design Criterion (GDC) 56 of Appendix A to 10 CFR Part 50. This exemption would extend only until the first scheduled refueling outage. The exemption is in accordance with the licensee's request dated December 31, 1985.

The Need for the Proposed Action: The exemption is needed to permit restart of the Fermi-2 facility from its present outage. The licensee estimates that it will be prepared to restart the facility by about the end of July 1986. However, the time required to design, procure and install the long-term modifications required to achieve compliance with GDC 56, would extend past the estimated restart date.

Environmental Impact of the Proposed Action: The increment of environmental impact is related to the potentially increased consequences of the leakage from the containment to the atmosphere in the event of an accident which damaged the fuel and pressurized the containment. However, the applicable requirements for isolation valves on lines penetrating containment require two valves on these lines; i.e., one valve inside and one valve outside containment. The licensee has committed to modify its existing design to comply with this requirement at the first scheduled refueling outage. The environmental impact, if any, would occur only during this interim period; i.e., within 1½ to 2 years from the present. For this interim period, the licensee has proposed a modification which consists of two automatic valves outside containment which are actuated by diverse signals. These valves were procured and installed to quality assurance criteria for safety-related components, are installed in accordance with seismic Category I criteria and will be closed by springs in the event of loss of power. Based on these considerations, the NRC staff has determined that the proposed interim modifications should provide the same level of leakage control as that required by GDC 56. Considering that the previous design consisted of only one check valve, the NRC staff concludes that the potential leakage past either the two valves in the interim modification or the two valves in the long-term resolution will be lower than that which could occur past the single check valve. In either of these two configurations, the installation of two valves in series on the line penetrating containment will serve to minimize leakage from containment.

With regard to potential non-radiological impact, the proposed exemption involves systems located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect non-radiological plant effluents. Therefore,

the Commission concludes there are no significant adverse non-radiological environmental impacts associated with the proposed exemption.

Alternative to the Proposed Action: Because the staff has concluded that there is no measurable environmental impact associated with the exemption, any alternative to the exemption will have either no impact or a greater environmental impact.

The principal alternative would be to deny the requested exemption. This would not reduce the environmental impacts of plant operation. Further, without the requested exemption, considerable delay will be incurred to design, procure and install the long-term modification (i.e., one valve inside and one valve outside containment) and would delay the restart of the facility which is presently shutdown. This delay would impose a significant economic impact on the facility without the benefit of any significant increase in safety.

Alternative Use of Resources: The action in the granting of this exemption does not involve the use of resources not previously considered in connection with the "Final Environmental Statement related to the Operation of Enrico Fermi Atomic Power Plant, Unit No. 2," (NUREG-0769) dated August 1981.

Agencies and Persons Consulted: The NRC staff reviewed the licensee's request which supports the requested exemption. The NRC staff did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the requested exemption.

Based upon the foregoing environmental assessment, we conclude that the requested action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the request for the exemption, 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.

Dated at Bethesda, Maryland, this 24th day of July 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam

Elinor G. Adensam, Director
BWR Project Directorate No. 3
Division of BWR Licensing