April 19, 1991

Docket No. 50-341

Mr. William S. Orser
Senior Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

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Dear Mr. Orser:

SUBJECT: AMENDMENT NO. 68 TO FACILITY OPERATING LICENSE NO. NPF-43: (TAC NO. 77682)

The Commission has issued the enclosed Amendment No. 68 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications (TS) in response to your letter dated August 1, 1990.

The amendment revises the TS to clarify the reference points for setting the uptravel and downtravel stops on the refueling platform's hoists.

A copy of our Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 68 to NPF-43
2. Safety Evaluation

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See next page

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FERMI AMEND 77682

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

April 19, 1991

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Senior Vice President - Nuclear
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cc w/enclosures:
See next page

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

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 68
License No. NPF-43

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the Detroit Edison Company (the licensee) dated August 1, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-43 is hereby amended to read as follows:

   Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 68, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. DECo shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

L. B. Marsh, Director
Project Directorate III/1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 19, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 68

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
3/4 9-7*	3/4 9-7*
3/4 9-8	3/4 9-8
B3/4 9-2	B3/4 9-2

*Overleaf page provided to maintain document completeness. No changes contained in these pages.

REFUELING OPERATIONS

3/4.9.5 COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communication shall be maintained between the control room and refueling platform personnel.

APPLICABILITY: OPERATIONAL CONDITION 5 during CORE ALTERATIONS.*

ACTION:

When direct communication between the control room and refueling platform personnel cannot be maintained, immediately suspend CORE ALTERATIONS.*

SURVEILLANCE REQUIREMENTS

4.9.5 Direct communication between the control room and refueling platform personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.*

*Except movement of control rods with their normal drive system.

REFUELING OPERATIONS

3/4.9.6 REFUELING PLATFORM

LIMITING CONDITION FOR OPERATION

3.9.6 The refueling platform shall be OPERABLE and used for handling fuel assemblies or control rods within the reactor pressure vessel.

APPLICABILITY: During handling of fuel assemblies or control rods within the reactor pressure vessel.

ACTION:

With the requirements for refueling platform OPERABILITY not satisfied, suspend use of any inoperable refueling platform equipment from operations involving the handling of control rods and fuel assemblies within the reactor pressure vessel after placing the load in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.6 Each refueling platform hoist used for handling of control rods or fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that hoist by:

a. Demonstrating operation of the overload cutoff when the load exceeds 1200 pounds for the fuel grapple hoist and 1050 pounds for all other hoists.

b. Demonstrating operation of the uptravel stop when fuel grapple hoist uptravel and frame mounted and monorail auxiliary hoists uptravel bring the point of attachment of the fuel assembly or control rod to within 6 feet 6 inches or greater below the top of the refueling platform tracks.

c. Demonstrating operation of the downtravel cutoff when the end of the fuel grapple hoist downtravel reaches 52 feet 3 inches or less below the top of the platform tracks and when the end of the frame mounted and monorail auxiliary hoists reach 85 feet or less below the top of the platform tracks.

d. Demonstrating operation of the slack cable cutoff when the load is less than 50 ± 10 pounds for the fuel grapple hoist.

e. Demonstrating operation of the loaded interlock when the load exceeds 535 pounds for the fuel grapple hoist and 450 pounds for all other hoists.

3/4.9.6 REFUELING PLATFORM

The OPERABILITY requirements ensure that (1) the refueling platform will be used for handling control rods and fuel assemblies within the reactor pressure vessel, (2) each hoist has sufficient load capacity for handling fuel assemblies and control rods, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

When setting the uptravel stop on the refueling platform hoists, the point of attachment is where the bail handle rests in the grapple.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL

The restriction on movement of loads in excess of the nominal weight of a fuel assembly over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the safety analyses.

3/4.9.8 and 3/4.9.9 WATER LEVEL - REACTOR VESSEL and WATER LEVEL - SPENT FUEL STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. This minimum water depth is consistent with the assumptions of the safety analysis.

3/4.9.10 CONTROL ROD REMOVAL

These specifications ensure that maintenance or repair of control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent since the SHUTDOWN MARGIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling mode loop be OPERABLE or that an alternate method capable of decay heat removal be demonstrated and that an alternate method of coolant mixing be in operation ensures that 1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during REFUELING, and 2) sufficient coolant circulation would be available through the reactor core to assure accurate temperature indication and to distribute and prevent stratification of the poison in the event it becomes necessary to actuate the standby liquid control system.

The requirement to have two shutdown cooling mode loops OPERABLE when there is less than 20 feet 6 inches of water above the reactor vessel flange ensures that a single failure of the operating loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and 20 feet 6 inches of water above the reactor vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate alternate methods capable of decay heat removal or emergency procedures to cool the core.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 68 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated August 1, 1990, the Detroit Edison Company (DECo or the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. NPF-43 for Fermi-2. The proposed amendment would revise the TS to clarify the reference points for setting the uptravel and downtravel stops on the refueling platform's hoists.

2.0 EVALUATION

The refueling platform provides a means for moving fuel bundles between the fuel storage pool and reactor vessel. It allows spent fuel to be removed from the reactor and transported underwater to the fuel storage pool, and allows new fuel to loaded into the reactor. Additionally, the various hoists mounted on the refueling platform are used in a variety of vessel servicing activities, including installation and removal of control blades, blade guides, fuel support pieces, etc. Technical Specification (TS) 3/4.9.6 "REFUELING PLATFORM" requires that the refueling platform be OPERABLE during the handling of fuel assemblies or control rods within the reactor pressure vessel. The refueling platform is equipped with three motor-driven hoists for the handling of fuel assemblies or control rods: (1) the main fuel grapple hoist; (2) the frame mounted auxiliary hoist; and (3) the monorail auxiliary hoist. The main fuel grapple hoist consists of an electrically operated triangular telescoping mast and a built-in grapple hoist for engaging the bail handle of a fuel assembly. The frame mounted and monorail auxiliary hoists are electrically operated single cable hoists to which refueling tools are attached. Each hoist has uptravel and downtravel adjustable position switches which automatically stop the hoist.

The uptravel stop prevents lifting of fuel assemblies and control rods beyond the specified TS level of six feet six inches below the refueling platform tracks. The uptravel stops maintain their irradiated components under sufficient water shielding for personnel safety. The uptravel stop surveillance requirement (TS 4.9.6.b) is not specific on the reference points that should be used to set the refueling platform hoist uptravel stops. Specifically, when using the main fuel grapple hoist, the uptravel stop is set such that the distance from the refueling platform tracks down to the end of the fuel grapple is six feet six inches. This maintains the

load at least six feet six inches below the refueling platform tracks which corresponds to five feet six inches of water shielding (assuming normal reactor cavity water level during refueling operation). However, when control rods are being removed or replaced, the frame mounted or monorail auxiliary hoist must be used and connected to a control rod grapple or control rod latch tool. Since the length of the tool increases the distance the control rod is below the refueling platform, the settings of the trips for these hoists must compensate for the added lengths of these tools. This consideration is very critical when moving control rods through the refueling canal because there is not sufficient clearance between the control rod and the bottom of the refueling canal if the uptravel stops are set without compensating for the length of the tool.

During Fermi-2's first refueling outage, the fact that the control rod could not be transferred through the refueling canal with the uptravel stop set without accounting for the tool length caused confusion as to the proper means to proceed. The proposed TS change will provide the reference points for setting the hoist stops which will clarify that it is appropriate to compensate for the length of refueling tools attached to a hoist when making the actual stop setpoint adjustment.

The change will not modify the intent of the current TS that the uptravel stop be set such that refueling activities are performed with radiation exposures as low as reasonably achievable. The change maintains the currently required shielding contribution from fuel pool water. The change acts to provide clear reference points for the uptravel stop settings and, in so doing, reduces the potential for misadjustment of the setpoint and subsequent maloperations of the hoist leading to an inadvertent personnel radiation exposure. Thus, the proposed change is acceptable.

Downtravel hoist stop settings are specified in TS 4.9.6.c. Consistent with the uptravel hoist, the licensee is proposing specific reference points for these settings. The downtravel stops for the main fuel grapple provide indication to refueling personnel that a fuel assembly is completely inserted into the core and prevent extending the hoist's mast below the fuel's top guide to prevent unraveling of their cables off the hoist's wrap-up drums. The proper reference points to preclude these events are the top of the platform tracks and the end of the respective hoist. Again, the proposed change makes the requirement clearer, reducing the potential for misadjustment of the setpoint and subsequent hoist maloperation leading to damage of the reactor internals or to a hoist cable unraveling event. Therefore, the proposed change is acceptable.

The proposed amendment also removes reference to the term "crane" in this specification. This is because the equipment of concern is designated as "hoist" at Fermi-2. This change is strictly administrative and will avoid any confusion concerning which equipment is being controlled by this TS and is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The NRC staff has determined that this amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents which may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding (56 FR 6871). Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John Stang

Date: April 19, 1991