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

August 22, 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 Amendment No. 4 to Facility Operating License No. NPF-43, Fermi-2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 4 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This was issued as an emergency amendment in accordance with 10 CFR 50.91(a)(5) and is in response to your letter dated July 2, 1986, and supplemented on July 15, July 24, July 30, and July 31, 1986.

The amendment revises the Fermi-2 Technical Specifications to change the undervoltage (i.e., degraded voltage) relay setpoints for Division I and the associated time delay for these relays to actuate.

A copy of the related safety evaluation supporting Amendment No. 4 to Facility Operating License No. NPF-43 is enclosed.

Sincerely,

Elinor G. Adensam

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

Enclosures:
1. Amendment No. 4 to NPF-43
2. Safety Evaluation

cc w/enclosure:
See next page

DESIGNATED ORIGINAL

Certified By GR

8608270438 860822
PDR ADOCK 05000341
P PDR

Mr. B. Ralph Sylvia
Detroit Edison Company

Fermi-2 Facility

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

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

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

Mr. Robert J. Norwood
Frenchtown Charter Township
2744 Vivian Road
Monroe, Michigan 48161

Special Assistant to the Governor
Room 1 - State Capitol
Lansing, Michigan 48909

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, Michigan 48913

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

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

EIS Review Coordinator
EPA Region V
230 S. Dearborn Street
Chicago, Illinois 60604

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

DETROIT EDISON COMPANY

WOLVERINE POWER SUPPLY COOPERATIVE, INCORPORATED

DOCKET NO. 50-341

FERMI-2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 4
License No. NPF-43

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

   A. The application for amendment filed by the Detroit Edison Company (the licensee), dated July 2, 1986 and supplemented on July 15, July 24, July 30, and July 31, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 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 set forth in 10 CFR Chapter I;

   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 enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-43 is hereby amended to read as follows:

   (2) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 4, 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.

8608280052 860822
PDR ADOCK 05000341
P PDR

3. This amendment was effective as of August 1, 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam

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

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: August 22, 1986

ENCLOSURE TO LICENSE AMENDMENT NO. 4

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

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

REMOVE	INSERT
3/4 3-27	3/4 3-27 (overleaf page)
3/4 3-28	3/4 3-28

TABLE 3.3.3-2

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. CORE SPRAY SYSTEM		
a. Reactor Vessel Low Water Level - Level 1	≥ 31.8 inches*	≥ 24.8 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. Reactor Steam Dome Pressure - Low	≥ 461 psig, decreasing	≥ 441 psig, decreasing
d. Manual Initiation	NA	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM		
a. Reactor Vessel Low Water Level - Level 1	≥ 31.8 inches*	≥ 24.8 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. Reactor Steam Dome Pressure - Low	≥ 461 psig, decreasing	≥ 441 psig, decreasing
d. Reactor Vessel Low Water Level - Level 2	≥ 110.8 inches*	≥ 103.8 inches
e. Reactor Steam Dome Pressure - Low	≥ 906 psig, decreasing	≥ 886 psig, decreasing
f. Riser Differential Pressure - High	≤ 0.627 psid	≤ 0.927 psid
g. Recirculation Pump Differential Pressure - High	≤ 1.627 psid	≤ 1.927 psid
h. Manual Initiation	NA	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM		
a. Reactor Vessel Low Water Level - Level 2	≥ 110.8 inches*	≥ 103.8 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. Condensate Storage Tank Level - Low	≥ 3 inches (27 inches above tank bottom)	≥ 0 inches (24 inches above tank bottom)
d. Suppression Pool Water Level - High	≤ 2.0 inches**	≤ 5.0 inches**
e. Reactor Vessel High Water Level - Level 8	≤ 214 inches*	≤ 219 inches
f. Manual Initiation	NA	NA

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
4. AUTOMATIC DEPRESSURIZATION SYSTEM		
a. Reactor Vessel Low Water Level - Level 1	≥ 31.8 inches*	≥ 24.8 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. ADS Timer	≤ 105 seconds	≤ 117 seconds
d. Core Spray Pump Discharge Pressure - High	≥ 145 psig, increasing	≥ 125 psig, increasing
e. RHR LPCI Mode Pump Discharge Pressure-High	≥ 125 psig, increasing	≥ 115 psig, increasing
f. Reactor Vessel Low Water Level - Level 3	≥ 173.4 inches*	≥ 171.9 inches
g. Manual Initiation	NA	NA
5. LOSS OF POWER	Division 1	
a. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage) (Division 1 and Division 2)	a. 4.16 kV Basis - 3033 volts	3033 ± 60.7 volts
	b. 120 V Basis - 87.5 volts	87.5 ± 1.75 volts
	c. 2 sec time delay	2.0 ± 0.1 sec time delay
	Division 2	
	a. 4.16 kV Basis - 3078 volts	3078 ± 61.6 volts
	b. 120 V Basis - 88.8 volts	88.8 ± 1.78 volts
	c. 2 sec time delay	2.0 ± 0.1 sec time delay
b. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage) (Division 1 and Division 2)	Division 1	
	a. 4.16 kV Basis - 3952 volts	3952 ± 79.0 volts
	b. 120 V Basis - 114.0 volts	114.0 ± 2.29 volts
	c. 44.0 sec time delay	44.0 ± 2.2 sec time delay
	Division 2	
	a. 4.16 kV Basis - 3702 volts	3702 ± 74.0 volts
	b. 120 V Basis - 106.8 volts	106.8 ± 2.14 volts
	c. 21.4 sec time delay	21.4 ± 1.07 sec time delay

* See Bases Figure B 3/4 3-1.

** Suppression pool water level instrument zero is 14'6" above bottom of torus at elevation 557'0".

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

WOLVERINE POWER SUPPLY COOPERATIVE, INCORPORATED

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

The Fermi-2 facility has been in either the cold shutdown or refueling modes since October 11, 1985, and was restarted in the beginning of August 1986. On May 27, 1986, Detroit Edison Company (the licensee) identified a problem relating to a potential undervoltage condition during an update of its degraded grid relay setpoint design calculations. This problem caused the licensee to reevaluate the values of the relay setpoints at which the supply of emergency power for Division I is automatically switched from the preferred source (i.e., the 120 kilovolt grid) to the onsite power supply (i.e., the emergency diesel generators). The need to consider raising the values of the undervoltage relay setpoints was limited to Division I since the Division II power supply has safety-related voltage regulators which reduce the voltage change on the Division II safety-related buses and the lower voltage bus loads. The results of the licensee's reevaluation of appropriate values for the Division I degraded grid relay setpoints indicated that these setpoints should be raised from their present values of 89 percent of nominal to 95 percent of nominal to be in compliance with the licensee's commitment to design its system in accordance with the criteria in Branch Technical Position (BTP) PSB-1, "Adequacy of Station Electric Distribution System Voltages."

On June 4, 1986, the licensee reported this deficiency to the NRC in accordance with the reporting requirements of 10 CFR 50.72. Subsequently, to correct this deficiency, the licensee submitted a request for an emergency amendment to the Fermi-2 Technical Specifications in its letter dated June 11, 1986. The licensee stated in its submittal that it needed this change processed as an emergency amendment in accordance with 10 CFR 50.91(a)(5) because the proposed technical specification change would allow it to declare the Division I system operable and thereby allow it to release Division II for surveillance testing. (Only one of the two safety-related electrical divisions need be operable when in either the cold shutdown or refueling modes.) On June 13, 1986, the NRC staff denied the licensee's request for an emergency technical specification amendment but granted the licensee, pursuant to the staff's discretionary authority, interim relief so it could declare Division I operable despite the reported deficiency in the values of the degraded grid relay setpoints. This relief was granted for a limited time period (i.e., only for the cold, shutdown or refueling modes) on the basis that there was not sufficient fission product inventory

8608280056 860822
PDR ADOCK 05000341
P PDR

in the core to represent a threat to public health and safety. The licensee did not request a change in the time delay associated with the Division I relay setpoints in its letter of June 11, 1986.

The licensee met with the NRC staff on June 19, 1986, to discuss the staff's need for additional information. Subsequently, the licensee submitted a similar request for an amendment to the Fermi-2 Technical Specifications in its letter dated July 2, 1986, and asked that it be treated as an exigent amendment in accordance with 10 CFR 50.91(a)(6). In this latter request, the licensee again proposed changing the Division I degraded grid relay setpoints from 89 percent to 95 percent of the nominal voltages but now also requested that the time delay associated with the actuation of the Division I relays be increased from 19.7 to 44.0 seconds. (As in its earlier submittal, the licensee did not propose changing the Division II degraded grid relay setpoints or the associated time delay.) The intent of this proposed change in the Division I setpoints is to provide assurance that a sustained degraded voltage (i.e., undervoltage) on the 120 kilovolt grid would not result in a possible failure of safety-related components. This failure could result because a sustained degraded grid voltage would lower the voltage on the safety-related buses feeding the Division I Class 1E equipment. This could lower the voltage of the power supplied to safety-related equipment to a level below the performance capability of this equipment. The time delay is established to provide assurance that the temporary, anticipated low voltage conditions, which would be caused by the starting of large motors, will not unnecessarily isolate Division I from the 120 kilovolt grid. The licensee later submitted additional information and clarifications on this matter in its letters dated July 15 and July 24, 1986.

In its letter dated July 30, 1986, and supplemented on July 31, 1986, the licensee asked that its previous request for an exigent technical specification amendment be treated as an emergency in accordance with the applicable portions of 10 CFR 50.91.

2.0 EVALUATION

The licensee's reevaluation of its calculations to determine the values of the degraded grid relay setpoints revealed that it had made an error in its assumption regarding the allowable lower limit for undervoltage of certain safety-related equipment. It had been assumed that the Division I Class 1E motors could sustain an undervoltage of -20 percent of the equipment nameplate voltage. However, more recent information from the vendors of this equipment indicates that the voltage tolerance on a number of these Division I Class 1E motors is actually +10 percent to -10 percent. The licensee states that certain of these motors, which are the limiting components determining the allowable Division I relay setpoints, have been verified by their vendor to be capable of performing at an undervoltage of -13 percent of their nameplate characteristics. The limiting components are Limitorque motor operated valves. Additionally, the licensee has concluded that it cannot afford to continue to incorporate into its calculations a design margin of four percent. This design margin was originally

incorporated by the licensee into its calculations to: (1) account for any drifting in the value of the relay setpoints; and (2) provide assurance that safety-related electrical components will not be subjected to sustained low voltage conditions which are close to their allowable limits.

The licensee's updated calculation, using the verifiable lower operational voltage limits of the Class 1E equipment and not incorporating the previous four percent design margin discussed above, indicates that the degraded grid relay setpoints for Division I must be raised from 89 to 95 percent of the nominal voltage to assure adequate protection of safety-related equipment.

Additionally, the licensee has determined in its updated calculations that the voltage recovery time from a voltage condition below that of the undervoltage relay setpoints when starting large motors, is 44.0 seconds for Division I as opposed to the value of 19.7 seconds which it originally calculated. This required increase in time delay is based on the licensee's reassessment of the time required for: (1) the load tap changer (LTC) sensing relay on the transformer feeding the Division I 4160 volt buses to actuate; and (2) the LTC to operate in order to increase the voltage on the bus. Specifically, the LTC is incorporated into the 13.2 KV/4.16 KV transformer supplying offsite power to the Division I 4160 volt buses.

The licensee states in its letter of July 2, 1986, that it has provided alarms which are initiated at a voltage of 98 percent of the nominal voltage on the 4160 volt buses. These alarms alert the plant operators to implement administrative procedures to recover the system voltage before the relay setpoint of 95 percent is reached. These procedures include starting the on-site combustion turbine generators (CTG) and transferring house loads to alternate off-site power sources.

Based on our review of the licensee's proposed request to increase the undervoltage relay setpoints from the 89 to 95 percent of nominal at the Division I safety-related 4160 volt buses, we find that the likelihood of an increase in power supply transfers from the preferred off-site supply (i.e., the 120 kilovolt grid) to the on-site power supply (i.e., the emergency diesel generators), will not increase significantly. Our determination is based on: (1) the decrease in the grid voltage to a level which would result in isolation from the grid, would occur gradually in most cases so that there would be sufficient time following an alarm at 98 percent of the nominal 4160 volt bus voltage which would alert the operators, to permit the operators to take action to recover the system voltage; (2) the LTC feature in the 13.2 KV/4.16 KV transformer provides continuous voltage regulation of the power supply at the 4160 volt buses which can compensate for relatively large swings in the 120 kilovolt grid voltage; and (3) the licensee has used appropriately conservative assumptions regarding the initial low voltage condition of the grid and the maximum loading on the Class 1E buses. Additionally, the licensee has provided information indicating reliability of the 120 kilovolt grid over a ten year period and the reliability of the LTC in the 13.2 KV/4.16 KV transformer feeding Division I.

In the course of our review of the licensee's proposed request to increase the Division I time delay from 19.7 to 44.0 seconds before isolation from the preferred offsite power supply and the subsequent transfer to the onsite power supply in the event of sustained low voltage on the grid, we developed a concern regarding the impact of this increase on the performance of the Division I Class 1E equipment. Specifically, the proposed increase in this time delay could subject connected and starting electrical components to a low voltage condition for a longer period of time than that which might occur at the present value of 19.7 seconds. In response to our concern on this matter, the licensee stated in its letter dated July 24, 1986, that all safety-related Division I electrical components are capable of performing their intended function without suffering any damage from the increase in the time delay. The licensee's basis for this statement is that the additional recovery time it calculated in its reevaluation is the time required for the LTC to raise the 4160 volt bus voltage to above 97 percent of nominal from a voltage level above 95 percent but below 97 percent. This latter value is the approximate voltage at which the relays will reset. The time interval during which the safety-related bus voltage recovers to above 95 percent after the start of large motors remains unchanged. Therefore, the licensee concludes that the Division 1 safety-related electrical components will not be subjected to a lower than acceptable level for a longer period by this change in the time delay. We agree and find this conclusion to be acceptable.

In evaluating the licensee's requested change in the degraded grid setpoints, we were concerned that the higher relay setpoints could increase the frequency of plant shutdowns (i.e., a reactor trip) and increase the frequency of unprelubricated ("dry") starts of the emergency diesel generators (EDGs). We conclude, however, that the higher relay setpoints will not significantly increase the likelihood of reactor trips and "dry" starts of the EDGs because: (1) the offsite power supply at the 4160 volt buses will be regulated by the LTC on the transformer feeding these buses; (2) there is a history of reliable operation of the 120 kilovolt grid for the last 10 years; and (3) the LTC performance has also been reliable.

Based on our conclusion that the increased value of the degraded grid relay setpoints will not result in any significant increase of either reactor scrams or unprelubricated starts of the emergency diesel generators and that the EDGs will continue to be available in the event of any voltage instability on the 120 kilovolt grid, we find the proposed change to the Divisions I undervoltage trip setpoints in Table 3.3.3-2 of the Fermi-2 Technical Specifications to be acceptable.

Additionally, we conclude that the proposed increase in the Division I time delay from 19.7 to 44.0 seconds will not subject safety-related electrical components to low voltage levels which could adversely affect their performance. Based on this conclusion, we find that the proposed increase in the Division I time delay in Table 3.3.3-2 is also acceptable.

Our conclusions regarding the acceptability of the proposed change in the Division I degraded grid relay setpoints is dependent on the verification by Region III of the documented undervoltage characteristics of the Division I safety-related electrical components.

3.0 FINDINGS OF AN EMERGENCY WARRANTING AN AMENDMENT WITHOUT NOTICE

The licensee first identified the need for the subject technical specification amendment in late May 1986, and submitted its initial request for a license amendment on June 11, 1986. In the ordinary course of events, the timing of this submittal would have permitted the NRC staff to evaluate the question of whether the requested change represented a situation of No Significant Hazards Consideration (NSHC), publish its proposed findings in the Federal Register and wait 30 days before taking any further action on the request. This could have been accomplished without impacting the restart of the Fermi-2 facility. However, the staff stated in its letter to the licensee dated June 13, 1986, that the licensee had not provided sufficient justification in its letter of June 11, 1986, to support a finding that an emergency technical specification amendment was warranted. Specifically, the licensee was asking the staff to make a finding that a condition which would be limiting in October 1986 (i.e., the required surveillances for Division II components) represented an emergency in June 1986. More significantly, the staff found that the licensee had not submitted sufficient information to permit the staff to make a determination regarding NSHC or to conduct its review of the request and complete its evaluation. To resolve these issues, the staff requested that the licensee meet with it; this meeting was held on June 19, 1986.

The staff has no acceptance criteria regarding how high the degraded grid relay setpoints may be set. Accordingly, the staff felt that it was necessary to probe, indepth, those factors which led to the proposed change in the values of the setpoints as well as to gain an understanding of the licensee's calculational techniques, including the underlying assumptions in this analysis. The staff's concern in this matter was that the value of the proposed setpoints (i.e., 95 percent of the nominal bus voltages) appeared to be relatively high compared to the prior value of 89 percent and those values used at other nuclear power plants. The underlying concern was that these relatively high setpoints could result in a significant increase in the frequency of reactor trips and unprelubricated starts of the emergency diesel generators. After having discussed the staff's concerns and determined what additional information the staff needed for its review, the licensee resubmitted, on July 2, 1986, its original request which was modified to reflect the discussion at the meeting of June 19, 1986.

We find, based on the preceding discussion, that the licensee's request on June 11, 1986, for the subject technical specification amendment, was submitted within a reasonable period of time (i.e., about two weeks) following recognition by the licensee of the need to do so. We further find that the licensee acted in a prudent and responsive manner to the staff's request for additional information and justification to support a

relatively high value for the relay setpoints. Given the nature of our underlying concerns in this matter and the consequent need to supply ample information, we find that the resubmittal of the request for the technical specification amendment in about two weeks from the meeting on June 19, 1986, was a reasonable time for the licensee to respond.

While this modified request was resubmitted in a reasonable time frame considering the staff's concerns cited above, the licensee asked in its letter of July 2, 1986, that its latest request be treated as an exigent amendment. This request for a shortened notice period was predicated on an estimated restart date of July 23, 1986. The licensee stated that the normal noticing procedures which require a 30-day waiting period following publication in the Federal Register would thereby delay restart of the Fermi-2 facility. An initial staff review of the licensee's letter of July 2, 1986, indicated that the licensee had not provided sufficient justification for treating this resubmittal as an exigent request. Accordingly, the licensee submitted on July 15, 1986, its basis for requesting an exigent amendment. The staff found this acceptable and published its intention of issuing an exigent amendment in the Federal Register on July 22, 1986 (51 FR 26319). Subsequently, the licensee requested in its letter dated July 30, 1986, and supplemented it on July 31, 1986, that the subject technical specification be treated as an emergency amendment. The licensee's basis for this emergency request was that there was no other impediment to restart.

We have previously found that the licensee had provided sufficient justification for treating its request of July 2, 1986, as an exigent amendment. On July 31, 1986, although Region III was prepared to authorize restart of the facility, the licensee could not, by technical specification requirements, commence restart of the facility without having both Division I and II operable and could not declare Division I operable until after the subject technical specification amendment had been issued. Based on this consideration, the fact that the staff had already made a Final No Significant Hazards Consideration Determination and had drafted a safety evaluation in which the staff found that the proposed technical specification amendment was acceptable, the staff informed the licensee in a telephone call on August 1, 1986, that it had found that the circumstances representing an emergency situation existed and could not have been avoided by prior application. Accordingly, the staff found in accordance with 10 CFR 50.91(a)(5), that a valid emergency existed. On this basis, the requested emergency technical specification amendment was issued on August 1, 1986.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 require that the Commission make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

The information in Section 2.0 above provides the basis for evaluating this license amendment against these criteria. Since the requested change to the Division I degraded grid relay setpoints and the associated time delay are acceptable and the plant operating conditions, the physical status of the plant, and dose consequences of potential accidents are the same as without the requested change, the staff concludes that:

(1) The proposed changes to the Division I degraded grid relay setpoints and the associated time delay in the Fermi-2 Technical Specifications will not involve a significant increase in the probability or consequences of an accident previously evaluated because: (a) the proposed undervoltage relay setpoints for Division I continue to provide assurance that, in the event of an accident, there will be a reliable source of power available for the Class 1E buses of this division to operate the required safety-related components and systems; (b) the emergency diesel generators will continue to be available in the event of any voltage instability on the 120 kilovolt grid; and (c) the lowest voltage at safety-related equipment permitted by the revised setpoints will continue to be at or above the lowest voltages at which the safety-related equipment can function satisfactorily;

(2) The proposed change to the Division I degraded grid relay setpoints and the associated time delay in the Fermi-2 Technical Specifications will not create the possibility of a new or different kind of accident from an accident previously evaluated because the worst case (i.e., bounding) accidents, and the assumptions used in the analysis of these accidents, remain unchanged. Specifically, the Division I relay setpoints will continue to switch from the preferred source of power (i.e., the 120 kilovolt grid) to the emergency diesel generators if there is any significant and sustained decrease in the 120 kilovolt grid voltage. The increase in the time delay from 19.7 to 44.0 seconds will not change the accident analysis assumptions because the actual time period during which the Class 1E equipment could be subject to lower voltage which might damage the safety-related electrical equipment, remains effectively unchanged;

(3) The proposed change to the Division I degraded grid relay setpoints and the associated time delay in the Fermi-2 Technical Specifications will not involve a significant reduction in a margin of safety because even though there is a slightly higher probability of an automatic, unprelubricated start of the emergency diesel generators, the probability of a reactor trip and an automatic start of the EDG's has been demonstrated to be relatively small based on the voltage stability of the 120 kilovolt grid over a ten-year period as well as

the demonstrated reliability of the load tap changer on the 13.2 KV/4.16 KV transformer which feeds the safety-related 4160 volt buses in Division I. Additionally, the licensee has increased the time delay before the relays actuate to provide assurance that there will be sufficient time for the LTC transformer to compensate for a decrease in the voltage of the 4160 volt buses due to starting of large motors when the 120 kilovolt grid voltage is at its lower limits, thereby, minimizing unnecessary actuations of the EDGs.

Based on the above analysis, the proposed amendment involves no significant hazards considerations.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, policy, and procedures, a consultation was held with the State of Michigan, Division of Radiological Health, by telephone on August 1, 1986. The comment by the State was that "... it believes that the NRC's basis is sufficiently conservative." This comment was offered after a discussion of the conservatisms in the NRC's evaluation of the proposed change to the technical specifications.

6.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation and use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The 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 reached a finding that this amendment involves no signficiant hazards consideration. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 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.

7.0 CONCLUSION

The Commission made a finding that the subject amendment involves no significant hazards consideration which was published in the Federal Register (51 FR 26319) on July 22, 1986, and consulted with the State of Michigan. No public comments were received, and the State of Michigan comments are addressed above.

The staff has concluded, based on the considerations discussed above that: (1) the amendment does not (a) significantly increase the probability or consequences of an accident previously evaluated, (b) create the possibility of a new or different kind of accident from any previously evaluated or (c) significantly reduce a safety margin and, therefore, the amendment does

not involve a significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and the security or to the health and safety of the public.

Principal Contributors: Evangelos Marinos, DBL, NRR
M. D. Lynch, DBL, NRR

Dated: August 22, 1986

AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NO. NPF-43 - FERMI, UNIT 2

DISTRIBUTION:

Docket No. 50-341
NRC PDR
Local PDR
PRC System
NSIC
BWD-3 r/f
MDLynch (2)
EHylton
EAdensam
Attorney, OELD
CMiles
RDiggs
JPartlow
BGrimes
EJordan
LHarmon
TBarnhard (4)
EMarinos
EButcher