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March 11, 1996
NRC-96-0038

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) NRC Administrative Letter 95-05: Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion
 - 3) Detroit Edison Letter to NRC, NRC-95-0124 "Proposed Technical Specification Change (License Amendment) - Emergency Diesel Generator Action Statements, Surveillance Requirements and Reports", dated November 22, 1995

Subject: Request for Enforcement Discretion

The purpose of this letter is to document Detroit Edison's request for enforcement discretion with respect to the requirements of Technical Specification (TS) Action Statement 3.8.1.1.b. This request was made verbally and discussed with NRC personnel in a conference telephone call during the morning of March 10, 1996.

On March 9, 1996 it was discovered that the fuel oil for EDG 11 exceeded the particulate limits specified by Surveillance Requirement 4.8.1.1.2.d. This enforcement discretion request involves an extension of 24 hours before initiating the Action "b" Hot Shutdown requirement for an inoperable diesel generator. The additional time was necessary to correct the fuel oil quality problem and thus avoid a plant shutdown. Based on the information provided in the conference call on March 10th and as documented in the enclosure to this letter, verbal approval of the Detroit Edison request was granted.

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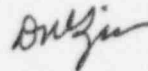
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The information included in the enclosure to this letter is provided consistent with the guidance in Section E of the attachment to Reference 2. As discussed in the enclosure and during the conference call, the low safety significance of extending this particular Tech Spec Action Statement is also addressed extensively in Reference 3.

In the conference call on March 10, 1996 several commitments were also made. The objective of these commitments was to provide a high degree of confidence that the offsite and other onsite AC power sources would remain available during the period covered by the enforcement discretion. These commitments were met. At 0839 on March 10, 1996 EDG 11 was returned to a functional status. The EDG was subsequently declared operable at 2102 after storage tank and day tank oil samples were determined to be within specifications and EDG 11 had successfully completed required surveillance testing. Enforcement discretion was no longer needed after that time.

If there are any questions, please contact Ms. Lynne S. Goodman at (313) 586-4097.

Sincerely,



Enclosure
Attachment

cc: T. G. Colburn
M. J. Jordan
H. J. Miller
A. Vogel

Request For Enforcement Discretion - Additional Information

1. The TS or other license conditions that will be violated.

Due to failure to meet Surveillance Requirement 4.8.1.1.2.d, EDG 11 is inoperable. This makes Division 1 of the onsite AC power source inoperable. With an onsite AC power source inoperable, Action b of TS 3.8.1.1 must be met. Action b includes the requirement that the division of the onsite AC power source be restored within 72 hours or the unit placed in Hot Shutdown within the following 12 hours.

Since the division was originally made inoperable for maintenance at 0515 on March 7, 1996, the division must be restored to operable status by 0515 on March 10, 1996. If not, the unit must be placed in Hot Shutdown by 1715 on March 10, 1996.

The actions necessary to restore the division of the onsite AC power source to operable status are expected to be completed before 1715 on March 11, 1996. This request will allow entry into the 12 hour requirement to reach Hot Shutdown, in accordance with TS 3.8.1.1 action b, to be delayed by 24 hours from 0515 on March 10, 1996 to 0515 on March 11, 1996. The requirement to reach Hot Shutdown would thus be delayed until 1715 on March 11, 1996 by approval of this request.

2. The circumstances surrounding the situation, including root causes, the need for prompt action and identification of any relevant historical events.

EDG 11 Fuel Oil Storage Tank sample was found to be high and exceeded the total particulate limit of 10 mg/l specified in Surveillance Requirement 4.8.1.1.2.d. The sample, taken at 2115 on March 8, 1996, indicated 28.6 mg/l for particulates. A reanalysis of this sample indicated 23.1 mg/l. Another sample, taken at 1015 on March 9, 1996, indicated 21.8 mg/l for particulate. EDG 11 Fuel Oil Tank has slowly been trending upwards over the last nine months, but previously all samples on this tank were below 7 mg/l. (At 7 mg/l action would normally be initiated to clean the oil in the tank using a filtration unit.) The most recent reading, prior to the March 8th sample, was 6.3 mg/l taken on February 8, 1996.

Past experience has shown that this type of fuel degradation (i.e., increasing particulate) trends up very slowly allowing ample time to plan for corrective action such as fuel filtration. Although the root cause is not known, in this occurrence it is believed, based on past experience, that water in the bottom of EDG 11's main fuel oil tank may have allowed biological contaminants to occur. Confirmatory analysis (by mass spectrometer) should be available in several weeks. Changeout

of the fuel would eliminate most if not all of the high particulate fuel oil, replacing it with new fuel oil and restoring operability to the EDG.

The other three EDG Fuel Oil Storage Tanks were all less than 2 mg/l particulate when last sampled. Results of samples taken on March 9 from EDG 13's and 14's storage tanks were less than 2 mg/l particulate.

Note: Subsequent to the request for enforcement discretion in the conference call on March 10, 1996 the results of the sample of the fuel oil in the storage tank for EDG 12 was determined to be less than 2 mg/l particulate. The results of the samples from the day tanks for EDG's 12, 13, and 14 were also satisfactory.

3. **The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. This evaluation should include at least a qualitative risk assessment derived from the licensee's PRA.**

The safety basis for this request is that the extension of the allotted out of service time is short, corrective actions are already underway, and a 7 day out of service time for a division of EDGs has been evaluated to result in only small increase in plant risk. The additional allowed outage time requested is one day. For these reasons, a reactor shutdown would be an unnecessary plant transient and would be less desirable from a safety perspective than the requested one time extension of the allowed out of service time for one EDG.

Detroit Edison previously submitted a request for a change to the Technical Specifications, which included an evaluation of an increase in allowed out of service time for one division of EDGs from 72 hours to 7 days. In that submittal (NRC 95-0124 dated November 22, 1995) the results of a risk assessment for adding a 7 day outage to each EDG in each operating cycle were reported. The increase in core damage frequency was less than 2%. The increased out of service time by one day for a single EDG as requested in this enforcement discretion would be a substantially lower risk than that calculated for 7 day outages each cycle for each of the 4 EDGs.

Additionally, during the period EDG 11 will be out of service, all of the Tech Spec required offsite AC Power sources will be available and one division of EDGs will be operable, which is sufficient to supply loads needed for safe shutdown. Additionally, CTG 11-1, which can supply power to Division 1 ESF busses if a station blackout would occur, will also be operable. These power sources assure the plant could still safely shutdown if an accident would occur. Additional discussion of these points is included in response to items 4 and 6 in this enclosure.

Note: Subsequent to the request for enforcement discretion in the conference call on March 10, 1996, EDG 11 was actually returned to a functional status (although not operable) later that morning at 0839. The increase in EDG unavailability resulting from this enforcement discretion was thus only a few hours greater than the original 72 hours allowed by Tech Specs, which was exceeded at 0515 in the morning. Thus, the effect of the extension was even less than originally predicted.

Also, it is believed that there will be no adverse effect on the future performance or operability of EDG 11 as a result of operating for a few hours on March 8, 1996 with fuel oil that exceeded the particulate specifications. This conclusion is supported by the following: (1) Prior to this run on the 8th new fuel oil filters had been installed and differential pressure during the run was observed to be zero. (2) After the run a visual inspection of the filter that was in service determined that it was in good condition with no visible foreign material on the filter. (3) Observation of EDG operating parameters during the test runs on March 10, 1996 determined that indications were normal.

4. **The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that neither an unreviewed safety question nor a significant hazard consideration is involved.**

The additional time out of service for EDG 11 that would be allowed by approval of this request for enforcement discretion would be less than already reviewed by Detroit Edison. This evaluation was submitted in Detroit Edison's letter NRC-95-0124, dated November 22, 1995 in support of the proposed Technical Specification Change to extend the EDG allowed out of service time from 72 hours to 7 days. The significant hazards evaluation submitted with that change concluded that no significant hazards considerations were involved (that significant hazards consideration is attached). Since a 7 day out of service time was shown to involve only a small increase in risk, extending the allowed out of service time by 24 hours will have an even smaller impact on risk.

The proposed Technical Specification Change submitted in NRC-95-0124 also addressed two items that are not applicable to the current situation. These items involved removal of the provisions for accelerated EDG testing and special reports and need not be considered with this enforcement discretion request.

During this period, Division 2 onsite AC power source will be fully operable and capable of supplying the ESF AC power loads needed for safe shutdown. In addition, CTG 11-1, which could supply Division 1 electrical loads in the event of

a station blackout will be operable (see Item 6 for related compensatory measures). Based on the equipment available and the small increase in risk previously analyzed for a 7 day out of service time, extending the allowed out of service time per this request will not be detrimental to public health and safety.

Having the EDG out of service for additional time will not affect the probability of occurrence of an accident, nor the probability of malfunction of any other equipment important to safety since an EDG out of service is not an initiator of any event. Also, there are no common components of the fuel oil system between the EDGs so a problem with EDG 11's fuel oil cannot affect the other EDGs' fuel oil systems. The analysis results for the other EDGs' fuel storage tank samples were within the required limits.

The consequence of an accident or malfunction of equipment will not be changed from that existing with the present allowed out of service time because sufficient AC power sources remain operable to supply safe shutdown loads. Adding an additional 7 day outage for each diesel generator in each cycle represents an increase of 28 days per cycle of diesel generator unavailability above the base case PSA assumptions. As discussed in item 3 above, the result of this additional unavailability was reported in NRC-95-0124 as increasing core damage frequency (CDF) by less than 2%, thus the increase in CDF for a one time, 24 hour increase would be either extremely small or the CDF may even be decreased as a result of other actions being taken as discussed below.

Compensatory measures will further reduce and offset the effects of the very small increase in EDG 11 unavailability. Based on a qualitative review, these measures will provide greater assurance that AC power from EDG 12 and CTG 11-1 will be available to supply Division 1 loads than is reflected by the probabilities currently assumed in the PSA. (In actuality, since EDG 11 was returned to a functional status at 0839 on March 10, 1996 the increase in EDG unavailability resulting from this enforcement discretion was in effect only a few hours greater than the 72 hours allowed by Tech Specs. Thus the effect on the PSA results would be even less than originally predicted.)

No new type of accident will be created because this request does not modify the plant design or method of operation and no new event initiator is created. The margin of safety defined in the basis for the Tech Spec will not be reduced beyond what was already permitted for the EDG allowed out of service time. One division of onsite AC power, one Division 1 EDG, and the offsite lines required by Tech Specs will be available. This request does not constitute an unreviewed safety questions because it merely extends the situation already assessed as acceptable in the Technical Specification action statement.

5. **The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.**

This request only affects the timing of required actions for an inoperable EDG due to out of specification fuel oil. The purpose of the request is to delay the requirement to shutdown the unit. Allowing continued operation of the unit does not have any impact on the original licensing basis environmental evaluations that were performed for Fermi 2. Also, whether or not the request is granted, the out of specification fuel oil will be replaced and disposed of or used in a manner consistent with the applicable regulations. Thus, granting this request will not involve adverse consequences to the environment.

6. **Any proposed compensatory measure(s).**

CTG 11-1 is a Combustion Turbine Generator with black start capability, which can be used to supply power to Division 1 ESF Busses when a loss of offsite and onsite power occurs. During the time EDG 11 is out of service, and the enforcement discretion is in effect, Detroit Edison committed that EDG 12 (the other Division 1 EDG) and CTG 11-1, will be maintained operable. These power sources exceed the requirements of the Technical Specifications for an inoperable EDG.

In the conference call with the NRC on March 10, 1996 Detroit Edison also made the following additional commitments:

- (1) to ensure maximum reliability of offsite power sources, no maintenance would be allowed to take place in the 345KV or 120 KV switchyards;
- (2) to ensure that satisfactory oil sample results are obtained for EDG 11 Fuel Oil Day Tank and Fuel Oil Storage Tank prior to declaring EDG 11 operable;
- (3) that the additional 24 hours would not be used if the fuel oil sample results from EDG 12, 13, or 14 day tanks or storage tanks were found out of specification;
- (4) satisfactory sample results of fuel being added to EDG 11 would be confirmed;
- (5) if any of the equipment listed above were to become inoperable, the 12 hour shutdown action would be initiated;
- (6) if, at any time after entering the 24 hour extension period, it was determined that the fuel oil specifications for EDG 11 could not be met within the required

time period, the remainder of the 24 hour extension would not be used and the 12 hour shutdown action would be initiated.

7. **The justification for the duration of the noncompliance.**

This request would allow the requirement to enter the 12 hour period to reach Hot Shutdown, in accordance with TS 3.8.1.1 Action b, to be delayed by 24 hours from 0515 on March 10, 1996 to 0515 on March 11, 1996. As discussed in the conference call with the NRC on March 10, 1996, the need for a 24 hour delay in this action was determined based on the estimated completion times for the corrective actions necessary to return EDG 11 to operable status. These estimates are summarized below (all times refer to Sunday, March 10, 1996):

- 1) Remove existing fuel from EDG 11 storage tank. Completed by 0200
- 2) First shipment of approximately 20,000 gallons offloaded by 0500.
- 3) Second and third shipment onsite by 0500.
- 4) Second and third shipment sampled and offloaded by 0900. (Fourth and final shipment actually arrived on site at 0900.
- 5) EDG 11 back in standby by 1000.
- 6) EDG 11 run (not for surveillance credit) completed by 1200.
- 7) Engine fast start completed by 1600. (A fast start was included to demonstrate that the diesel had not been adversely affected).
- 8) Main Tank Sample completed by 2000 .
- 9) All conditions met for operability between 2000 to 2400 hours.

8. **A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).**

This request has been reviewed and approved by the Fermi 2 On Site Review Organization.

9. **The request must specifically address how one of the NOED criteria for appropriate plant conditions specified in Section B is satisfied.**

Criterion 1 (a) of Section B is applicable to this request. This criterion states in part:

"1. For an operating plant, the NOED is intended to (a) avoid undesirable transients as a result of forcing compliance with the license condition and, thus minimize potential safety consequences and operational risks..."

In this case, Fermi 2 is operating and unless this request is granted would be required to shutdown. This shutdown would then be followed by a plant startup upon restoration of the EDG 11 fuel oil quality to within the specification limits and any other required activities caused by the shutdown. Both the shutdown and the startup are operational evolutions with an increased potential for initiating transients with adverse safety consequences. These operational risks are undesirable and unnecessary given the relatively short time before EDG 11 is expected to be restored to a fully operable condition.

Thus, this situation meets a criterion given in Section B of the NRC Guidance for Issuance of Enforcement Discretion.

10. **If a follow-up license amendment is required, the NOED request must include marked-up TS pages showing the proposed TS changes. The actual license amendment request must follow within 48 hours.**

Not Applicable

11. **A statement that prior adoption of approved line-item improvements to the TS or the ITS would not have obviated the need for the NOED request.**

No approved line-item improvements to the TS have been issued that would have obviated the need for this request.

Under the Improved Technical Specifications (ITS) this request would not be needed. LCO 3.8.3 of the ITS addresses the requirements for EDG fuel oil. Action C applies if the stored fuel oil for an EDG is not within the total particulates limit. This action would require the total particulates for the EDG to be restored to within limits within 7 days. If the 7 day requirement is not met, then the associated EDG is required to be declared inoperable at that time; following which, the actions for an inoperable EDG would apply.

The 7 day completion time allowed for this situation by the ITS would have allowed sufficient time for corrective action. Thus, this request would not be necessary under the ITS.

Fermi 2 is in the process of preparing a licensing amendment to convert to the ITS. This amendment is currently scheduled to be submitted in 1997.

12. **Any other information the NRC staff deems necessary before making a decision to exercise enforcement discretion.**

The following additional information was provided in response to questions from the NRC staff during the conference call on March 10, 1996:

1. No severe weather had been forecast for the area for the 24 hour period
2. None of the work performed during the recent EDG outage is believed to have caused the marked increase in EDG Main Fuel Oil Tank particulate levels. However, during the performance of work in the recent EDG outage, it was necessary to drain fuel from the day tank back to the storage tank. During this evolution it is possible that the flow of oil from the day tank to the storage tank caused particulate dispersion in the storage tank.
3. The EDG Day Tank is sized to support engine operation of full load for approximately 2 1/2 hours, engine operations requires approximately 210 gallons of fuel per hour.
4. EDG Fuel Oil Duplex Filters and provide 5 micron filtration of oil supplied to the engine from the day tank.

***SIGNIFICANT HAZARDS CONSIDERATION EXTRACTED FROM A PREVIOUS
SUBMITTAL TO THE NRC (NRC-95-0125 DATED NOVEMBER 22, 1995)***

SIGNIFICANT HAZARDS CONSIDERATION

In accordance with 10CFR50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards considerations. To make this determination, Detroit Edison must establish that operation in accordance with the proposed 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 proposed amendment will increase the allowed out-of-service time for one division of diesel generators, remove the provisions for accelerated testing and special reports, and revise the Bases due to these changes.

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident. Changing the out-of-service time, surveillance frequency and reporting requirements for emergency diesel generators (EDGs) will not affect the initiation of an accident, since EDGs are not associated with any accident initiation mechanism. The proposed changes will not impact the plant design or method of EDG operation. The increased out-of-service time has been evaluated to have only a small impact on plant risk. Performing the EDG inspections during plant operations will decrease plant risk during plant outages. Deleting the accelerated testing provisions will not affect the consequences of an accident since the implementation of a maintenance and monitoring program for EDGs consistent with the provisions of the maintenance rule will assure EDG performance as discussed in Generic Letter 94-01. Deleting reporting requirements has no impact on consequences of an accident since reporting has no accident effect. Based on the amount of electrical system redundancy, the small increase in plant risk during operations and the decrease in plant risk during outages, this change will not result in a significant increase in the probability or consequences of an accident.
2. The proposed changes do not create the possibility of a new or different accident from any previously evaluated. The proposed changes do not modify the plant design or method of diesel operation. Therefore, no new accident initiator is introduced, nor is a new type of failure created. For these reasons, no new or different type of accident is created by these changes.
3. The proposed changes do not involve a significant reduction in a margin of safety.

Since implementation of a maintenance program for the EDGs consistent with the Maintenance Rule will ensure that high EDG performance standards are maintained, the accelerated testing schedule is not needed to maintain the margin of safety. Deleting reporting requirements has no impact on safety or margin of safety. Increasing the allowed out-of-service time for one division of onsite AC power will slightly increase EDG unavailability during plant operation. However, this change does not impact the redundancy of offsite power supplies, the allowed out-of-service time if both divisions of power are not operable, or the ability to cope with a station blackout event. This request also does not change the Action statement for AC electrical power systems required when the plant is shutdown. The increase in core damage frequency was assessed to be small by an evaluation using the plant PSA for the operating condition. Enabling the diesel generator inspections to be performed on-line will improve safety while shutdown by reducing EDG out-of-service time during outages. For these reasons, the proposed changes do not involve a significant reduction in the margin of safety.