

July 2, 1997

Mr. Douglas R. Gipson  
Senior Vice President  
Nuclear Generation  
Detroit Edison Company  
6400 North Dixie Highway  
Newport, Michigan 48166

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE AMENDMENT TO  
EXTEND EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIMES AT FERMI 2  
(TAC NO. M94171)

Dear Mr. Gipson:

On November 22, 1995, Detroit Edison submitted an amendment request to extend the allowed outage times for the emergency diesel generators for NRC staff review. Detroit Edison provided supplemental information related to the amendment request in letters dated February 19 and June 12, 1996, and January 30, 1997. Detroit Edison also provided supplemental information related to the amendment request in letters dated April 19, May 3, and December 4, 1996, responding to NRC requests for additional information.

Additional information, as discussed in the enclosure, is requested in order for the staff to complete its review. NRC requests that Detroit Edison respond within 30 days.

If you have any questions concerning this request, please contact me at (301) 415-2828.

Sincerely,

ORIGINAL SIGNED BY

Andrew J. Kugler, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure: As stated

cc w/encl: See next page

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Mr. Douglas R. Gipson  
Detroit Edison Company

Fermi-2

cc:

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REQUEST FOR ADDITIONAL INFORMATION RELATED TO  
THE AMENDMENT TO EXTEND EMERGENCY DIESEL GENERATOR  
ALLOWED OUTAGE TIMES AT FERMI 2 (TAC NO. M94171)

As we discussed in a telephone conversation on June 11, 1997, please provide the following information for NRC staff review:

- (1) NRC Information Notice (IN) 97-21, "Availability of Alternate AC Power Source Designed for Station Blackout Event," was issued on April 18, 1997. This IN discusses problems that could cause the alternate AC (AAC) power source to become unavailable during a station blackout (SBO) event. Is the Fermi-2 AAC power source subject to similar concerns. Explain the basis of the response.
- (2) Submit a copy of the risk matrix and a description. If the contents of the risk matrix vary depending on whether one or two emergency diesel generators (EDGs) in a division are out of service, provide copies of the matrix for both conditions.
- (3) In your December 4, 1996, response to the previous request for additional information (RAI), you stated that the risk matrix identified that the Essential DC and AC equipment in addition to systems devoted to decay heat removal are more risk significant during a particular EDG outage. Did you find any of these components or systems that fall in the ranking of High or Unacceptable? If so, would the risk matrix lead you to prohibit the concurrent outage of these pieces of equipment and the EDG?
- (4) How do you assess the resulting overall risk impact on safety functions when equipment that is not in the matrix is removed from service or when more than two components or systems in the matrix are concurrently taken out of service, or found to be inoperable? Do you use your current probabilistic risk assessment (PRA) in these cases? If you do, explain the process.
- (5) Submit a copy of the relevant procedures that incorporate the use of the risk matrix or insights from your PRA for system or component outages.
- (6) In your December 4, 1996, response to our previous RAI, you provided conditional core damage probabilities given the success of one EDG and failure of the other three EDGs, a total LOOP, failure of combustion turbine-generator (CTG) 11-1, and no offsite power recovery. They were:  $3.2E-2$  for EDGs #11, #12, & #13 and  $5.3E-3$  for EDG #14. From this information, we interpret that you can avoid core damage with a 96.8% probability for the first three EDGs and with a 99.47% probability for EDG #14. In turn, we interpret that any one diesel can mitigate a SBO accident with high probability. Is this interpretation correct? If so, please provide the engineering bases that support these numerical estimates.

ENCLOSURE

- (7) In addition to the above, we are interested in the following scenario. Assume you take an EDG in Division I (or II) out of service for maintenance and a LOOP occurs. Then assume an EDG in Division II (or I) fails to start and CTG 11-1 also fails. Now you have one EDG operating in each division. Have you analyzed this scenario in PRA? If you have, please provide the results and the associated bases. We recognize that this scenario is beyond design basis. Therefore, if you have not analyzed this scenario, no further action in response to this question is necessary.
- (8) Discuss the plant-specific factors that led to the relatively small SBO numbers in your PRA.