

April 10, 1992

Docket No. 50-341

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

Dear Mr. Orser:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO FERMI 2 POWER UPRATE AMENDMENT REQUEST (TAC NO. 82102)

In reviewing your September 24, 1991 amendment request, NRC-91-0102, related to power uprate for Fermi 2, the staff requested additional information by letter dated February 25, 1992. You responded to our request by letter dated March 25, 1992. After reviewing your response, we have determined that we will need additional information identified in the enclosure in order to continue our review.

You are requested to respond as soon as possible, but not later than 30 days from receipt of this letter in order for us to maintain our review schedule. For your convenience a copy of the enclosure has been telecopied to T. Riley of your staff. If you have any questions, please call me at (301) 504-1341.

The reporting and/or recordkeeping requirements of this letter affect fewer than ten respondents, therefore OMP clearance is not required under P.L. 96-511.

Sincerely,

original signed by

Timothy G. Colburn, Sr. Project Manager  
 Project Directorate III-1  
 Division of Reactor Projects III/IV/V  
 Office of Nuclear Reactor Regulation

Enclosure:  
 As stated

cc: See next page

LA/PD3-1 <i>bc</i>	PM/PD3-1 <i>bc</i>	PD/PD3-1 <i>bc</i>
PShuttleworth	TColburn/tg	LBMarsh <i>bc</i>
04/10/92	04/10/92	04/10/92

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Handwritten signature and initials, possibly 'bc' and '11'.



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

April 10, 1992

Docket No. 50-341

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

Dear Mr. Orser:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO FERMI 2 POWER UPRATE  
AMENDMENT REQUEST (TAC NO. 8210?)

In reviewing your September 24, 1991 amendment request, NRC-91-0102, related to power uprate for Fermi 2, the staff requested additional information by letter dated February 25, 1992. You responded to our request by letter dated March 26, 1992. After reviewing your response, we have determined that we will need additional information identified in the enclosure in order to continue our review.

You are requested to respond as soon as possible, but not later than 30 days from receipt of this letter in order for us to maintain our review schedule. For your convenience a copy of the enclosure has been telecopied to T. Riley of your staff. If you have any questions, please call me at (301) 504-1341.

The reporting and/or recordkeeping requirements of this letter affect fewer than ten respondents, therefore OMB clearance is not required under P.L. 96-511.

Sincerely,

*Timothy G. Colburn*  
Timothy G. Colburn, Sr. Project Manager  
Project Directorate III-1  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc: See next page

Mr. William Orser  
Detroit Edison Company

Fermi-2 Facility

cc:

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Mr. A. Cecil Settles  
Director - Nuclear Licensing  
Detroit Edison Company  
Fermi Unit 2  
6400 North Dixie Highway  
Newport, Michigan 48166

ENCLOSURE 1

REQUEST FOR ADDITIONAL INFORMATION  
FERMI UNIT 2 POWER UPRATE REVIEW

We have reviewed the sample calculations submitted with your March 26, 1992 letter. During our review we have identified some inconsistencies within your calculations presented in Attachment 1 to NRC-92-0043 and between your calculations and your principle reference in these matters (NEDC-31336). Therefore:

1. Provide the equations that define the relationship between volts displayed on the Fluke 8600A dvm and the process units of measurement in all of your calculations.
2. Provide the calibration voltage and range used to determine the value of FL in the channel calibration accuracy calculations for the Rosemount model 1151 transmitters.
3. Describe how the Rosemount transmitter current signal is converted to a voltage for the dvm and identify where the calibration error for this shunt is accounted for in your calculations.
4. Back calculations for the PSE on the Rosemount transmitters indicates that you used a value of 0.222 volts for the variation in supply voltage. Page 2-6 of NEDC-21617 ("Analog Transmitter/Trip Unit System for Engineered Safeguard Sensor Trip Units") states that the design output voltage ripple for the 24 volt power supply is 1% (.24 volts). What is your basis for using a lesser value for the ripple?
5. Your calculations for trip unit drift (page 1-8) indicate that you are using equations that NEDC-31336 states are applicable to a BWR-6. Fermi Unit 2 is a BWR-4. Justify using the less conservative calculations.
6. Your calculations for PMA (page 1-10) present the results for four cases. It appears that these results are not random and have a positive bias. Justify treating the PMA error as a random variable for Reactor Vessel Steam Dome Pressure.
7. The formula used to calculate the SPE for a Rosemount model 1151 used in the differential mode is different from that stated on page 2-11 of NEDC-31336. Justify the equation used for Fermi 2, and identify all other instances where the methods used to calculate your setpoints differ from NEDC-31336.
8. The formula used to calculate C for the Main Steam Line Flow (page 2-10) contains a coefficient for C2 that is not used in a similar calculation on page 1-9. Please explain the difference.

3. The specification for several error sources in Section 3.2 (page 3-8) of your calculations are different from the values given in NEDC-31336. For each of the examples given below, please explain why your approach is better than that presented in NEDC-31336:

- a. VA -You give a value of 1% (with a separate drift value (VD) of 1.2%). NEDC-31336 (pages 3-129 AND 4-78) gives a value of 1.98% with drift and calibration errors included.
- b. ATU -You give a value of 1.25% (with a separate drift value (DTU) of 0.63%). NEDC-31336 (page 4-80) gives a value of 2% for a flow biased trip with drift included.
- c. (1) -You refer to an off-rated condition which is identified by (1). Identify this off rated condition and explain why it is not discussed in NEDC-31336.
- d. MPFA-EPEA is a bias type error. Its value appears to be determined by the type of trip unit used (see question 3.b above). Explain why the type of trip unit does or does not influence this parameter and correct it if necessary.