

Detroit  
Edison

Douglas R. Gipson  
Senior Vice President  
Nuclear Generation

Fermi 2  
6400 North Dixie Highway  
Newport, Michigan 48166  
(313) 586-5249

October 29, 1996  
NRC-96-0126

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) Detroit Edison Letter to NRC, "Proposed Technical Specification Change (License Amendment) - Safety Limit - Minimum Critical Power Ratio (MCPR)," NRC-96-0075 dated September 5, 1996
  - 3) Detroit Edison Letter to NRC, "Supplemental Information Regarding Proposed Technical Specification Change (License Amendment) - Safety Limit - Minimum Critical Power Ratio (MCPR)," NRC-96-0119 dated October 14, 1996

Subject: Supplemental Information Regarding Proposed Technical Specification Change (License Amendment) - Safety Limit - Minimum Critical Power Ratio (MCPR)

---

On September 5, 1996 Detroit Edison proposed a License Amendment (Reference 2) to change the Minimum Critical Power Ratio (MCPR) Safety Limits in Technical Specification 2.1.2. The proposed changes result from a cycle specific calculation performed for Fermi 2 Operating Cycle 6, expected to commence in November of 1996. On October 14, 1996 Detroit Edison provided supplemental information regarding this proposed License Amendment (Reference 3). Included with that submittal was a report from General Electric which provided an explanation of differences between the Fermi 2 cycle specific calculation and the generic calculation for the Minimum Critical Power Ratio (MCPR) Safety Limits.

070082

9611080034 961029  
PDR ADOCK 05000341  
P PDR

11  
A001

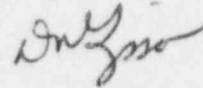
USNRC  
October 29, 1996  
NRC-96-0126  
Page 2

The General Electric report provided in Reference 3 briefly described the method used to select the MCPR Safety Limit for single loop operation (SLO). Since that supplemental information was provided, General Electric has performed an analysis of the single loop operation (SLO) MCPR Safety Limit for Fermi Cycle 6. This analysis confirms that the SLO MCPR Safety Limit value requested in Reference 2 is appropriate for Fermi Cycle 6. A description of this analysis and additional description of the initial method used to select the Cycle 6 SLO MCPR is included in the attachment to this letter.

Detroit Edison has evaluated this supplemental information regarding the proposed Technical Specification change and has determined the Significant Hazards evaluation provided with the proposed amendment is not affected by this supplemental information and that No Significant Hazards Consideration is involved.

If you have any questions, please contact Mr. Joseph Conen at (313) 586-1960.

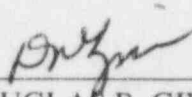
Sincerely,



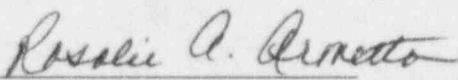
Attachment

cc: A. B. Beach  
M. J. Jordan  
A. J. Kugler  
A. Vogel  
Supervisor, Electric Operators, Michigan  
Public Service Commission, J. R. Padgett

I, DOUGLAS R. GIPSON, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

  
\_\_\_\_\_  
DOUGLAS R. GIPSON  
Senior Vice President

On this 29th day of October, 1996 before me personally appeared Douglas R. Gipson, being first duly sworn and says that he executed the foregoing as his free act and deed.

  
\_\_\_\_\_  
Notary Public

ROSALIE A. ARMETTA  
NOTARY PUBLIC - MONROE COUNTY, MI  
MY COMMISSION EXPIRES 10/11/99

ATTACHMENT  
DESCRIPTION OF FERMI 2  
CYCLE SPECIFIC ANALYSIS  
SINGLE LOOP OPERATION  
MCPR SAFETY LIMIT



GE Nuclear Energy

R. Jack Bragg  
Fuel Project Manager

Nuclear Fuel - Americas  
General Electric Company  
P.O. Box 780, M/C A33, Wilmington, NC 28401  
910 675-5751  
Dial Comm: 8\*292-5751  
Fx: 910 675-5684

RJB:96 - 22, rev. 1  
October 28, 1996

cc: S. E. Kremer  
M. H. Lim  
S. T. Hsieh\*  
J. M. Thorson  
W. M. Tucker  
\*with attachments

Mr. B. L. Myers  
Principle Engineer, Nuclear Fuel  
Enrico Fermi Unit 2  
Detroit Edison Company  
6400 North Dixie Highway 290TAC  
Newport, MI 48166


SUBJECT: **Fermi - 2 Cycle SLMCPR Licensing Clarification**

Dear Mr. Myers:

Please find enclosed, for DECo's information and use a letter written by C. L. Heck of our Design Process Improvement team clarifying Fermi 2 Cycle 6 Safety Limit MCPR (SLMCPR) calculation. The letter has been modified to reflect our conversation today, Monday, October 28, 1996.

If you have any questions, please call me or C. L. Heck at (910) 675 - 6134.

Sincerely,

  
R. J. Bragg  
Fuel Project Manager  
Fermi - 2



Nuclear Fuel Americas  
Mail Code A33  
Fax 8\* 292-5684

TO: R.J. Bragg

FROM: B.R. Fischer/C.L. Heck

DATE: October 28, 1996

SUBJECT: **Fermi 2 Cycle 6 SLMCPR Single Loop Operation (SLO) Licensing Clarification**

REFERENCES:

1. *General Electric Standard Application for Reactor Fuel*, NEDE-24011-P-A-13-US, August 1996.
2. *Licensing Topical Report, General Electric BWR Thermal Analysis Basis (GETAB): Data, Correlation and Design Application*, NEDO-10958-A, January 1977.
3. *General Electric Fuel Bundle Designs*, NEDE-31152-P, Revision 5, June 1996.
4. *GE13 Compliance With Amendment 22 of NEDE-24011-P-A (GESTAR-II)*, NEDE-32198P, December 1993.
5. *GE11 Compliance With Amendment 22 of NEDE-24011-P-A-10 (GESTAR-II)*, NEDE-31917P, April 1991.

cc: C.L. Heck  
J.L. Rash  
R.H. Szilard  
LP# 262-96-180

In order to assist in answering the NRC questions about the Fermi 2 Cycle 6 Safety Limit MCPR (SLMCPR) calculation the following additional information regarding the adder to the SLMCPR for single loop operation (SLO) is being provided:

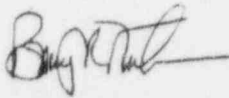
**1. What is the basis for the SLMCPR SLO adder of 0.02?**

A number of plant-specific single loop operation (SLO) SLMCPR calculations have been performed for GE11 and the other fuel product lines. These calculations use the same procedure as used for the plant-specific dual-loop SLMCPR calculations (Reference 1), and the methods described in Reference 2. The only difference is that the larger uncertainties associated with SLO as specified in Table 3.3 of Reference 3 are used. Reference 3 is incorporated by reference from Reference 1. The uncertainties associated with SLO remain unchanged from those used previously in determining the SLO adders to the generic dual-loop SLMCPRs. The conclusion of these plant-specific SLO calculations is that the SLO adder is linearly correlated to the base value (dual-loop SLMCPR) and is not correlated to a particular bundle design. For example, larger base dual-loop SLMCPR values have larger adders independent of whether the bundle is GE11 or GE13. For a base calculated SLMCPR value of 1.09 the appropriate SLO SLMCPR adder is 0.02, which is the same value applied previously to the generic GE13 base dual-loop SLMCPR value of 1.09 documented in Reference 4. This result is contrasted to the 0.01 SLMCPR adder which has previously been applied to the generic GE11 base dual-loop SLMCPR value of 1.07 documented in Reference 5. The 0.02 SLO SLMCPR adder is applicable for Fermi-2 Cycle 6, and results in a SLO SLMCPR of 1.11. Based on the verified data accumulated to the present, the 0.02 adder is conservative for a 1.09 base SLMCPR since a best fit to the data yields an adder between 0.01 and 0.02. This fact has been confirmed by a specific analysis, performed in accordance with References 1 and 2, for Fermi-2 Cycle 6. This calculation shows the specific adder to be between 0.01 and 0.02. Thus the use of 0.02 is conservative.


R.J. Bragg

Fermi-2 Cycle 6 SLMCPR Single Loop Operation (SLO) Licensing Clarification

October 28, 1996



B.R. Fischer  
Technical Program Manager  
Nuclear Fuel - Americas  
(910) 675-5838; 8\*292-5838



C.L. Heck  
Principal Engineer  
Design Process Improvement  
(910) 675-6134, 8\*292-6134