

Fermi 2
6400 North Dixie Hwy., Newport, Michigan 48166
Tel: 313.586.5201 Fax: 313.586.4172

Detroit Edison



June 20, 1997
NRC-97-0037

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) NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4", Revision 1, April 1995.

Subject: Proposed Technical Specification Change (License Amendment) for Relocation of Reactor Recirculation System Motor-Generator (MG) Set Scoop Tube Stop Setting Surveillance

Pursuant to 10CFR50.90, Detroit Edison Company hereby proposes to amend Operating License NPF-43 for the Fermi 2 plant by incorporating the enclosed changes into the Plant Technical Specifications. The proposed change relocates the surveillance requirements for the Reactor Recirculation System MG Set Scoop Tube Stop setpoints to the Updated Final Safety Analysis Report. Changes in testing methodology are also proposed and are described in Enclosure 1. These changes will be implemented within 60 days of approval via LCR 97-088-OPL.

Enclosure 1 provides a description and evaluation of the proposed changes.

Enclosure 2 provides an analysis of the significant hazards consideration assessment using the standards in 10CFR50.92.

Enclosure 3 provides marked up pages of the existing Technical Specifications to show the proposed changes and a typed version of the affected Technical Specification pages with the proposed changes incorporated.

Detroit Edison has evaluated the proposed Technical Specification change against the criteria of 10CFR50.92 and determined that no significant hazards consideration is involved. The Fermi 2 Onsite Review Organization has approved and the Nuclear

9706240197 970620
PDR ADOCK 05000341
PDR

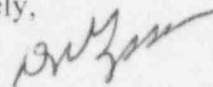


A0011

is involved. The Fermi 2 Onsite Review Organization has approved and the Nuclear Safety Review Group has reviewed the proposed Technical Specification change and concurs with the enclosed determinations. In accordance with 10CFR50.91, Detroit Edison has provided a copy of this letter to the State of Michigan.

If you have any questions, please contact Mr. Steven M. Avila at (313) 586-4269.

Sincerely,

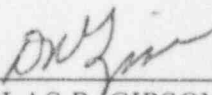


Enclosures

cc: A. B. Beach
G. A. Harris
M. J. Jordan
A. J. Kugler

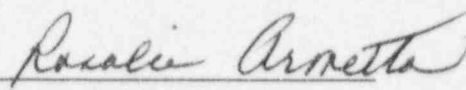
Supervisor, Electric Operators, Michigan Public Service Commission
J. R. Padgett

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 20th day of June, 1997 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

ENCLOSURE 1

**FERMI 2 NRC DOCKET NO 50-341
OPERATING LICENSE NPF-43**

**REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
RELOCATION OF RECIRCULATION MG SCOOP TUBE SETTING
SURVEILLANCE**

DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGES

BACKGROUND:

The proposed change involves relocating the requirements of Technical Specification (TS) Surveillance Requirement (SR) 4.4.1.1.2 to the Updated Final Safety Analysis Report (UFSAR) to correct an apparent conflict with TS surveillance requirements with no associated Limiting Condition for Operation (LCO). The conflict arises when the Recirculation Pump Motor-Generator (MG) set speed stops are considered inoperable without a related LCO requirement for operability since the TS only requires two recirculation loops to be "in operation." With no requirement to be "OPERABLE" and thus no action requirement provided, this situation could be erroneously construed to require plant shutdown.

SR 4.4.1.1.2 requires that each recirculation pump MG set scoop tube mechanical and electrical stop be demonstrated OPERABLE with overspeed setpoints less than or equal to 110% and 107%, respectively, of rated core flow every 18 months. The adjustable scoop tube mechanism converts an electrical input signal from the speed controller into a mechanical scoop tube position. The positioner has both mechanical (stop block) and electrical (cam-operated switch) stops that limit recirculation flow by limiting the speed of the MG set. The electrical stop actuates first. The mechanical stop is set to prevent scoop tube motion if the electrical stop fails or to mitigate overshoot of the electrical stop. Additional description of the scoop tubes is in UFSAR Subsection 7.7.1.2.3.

In addition to relocating the surveillance requirement to the UFSAR, this amendment includes changes to the surveillance testing methodology. These changes include: (1) eliminating any licensing basis requirement for the electrical stops, and (2) revising the periodicity from a calendar basis to a situational basis (*i.e.*, plant conditions which would dictate a change in stop positions). Any future additional changes will be reviewed and implemented under the provisions of 10 CFR 50.59.

BASIS:

The purpose of the mechanical stop is to terminate a postulated reactor recirculation pump slow flow runout transient which is not terminated by a reactor scram (the design basis event for the Maximum Extended Operating Domain (MEOD) analysis documented in NEDC-31843P). This event stabilizes at a new core power level, corresponding to the maximum possible core flow along the Maximum Extended Load Line Limit (MELLL) rod line, which is dictated by the actual MG set scoop tube mechanical stop. The MG set scoop tube electrical stop is functionally similar but not redundant to the mechanical stop, and it is not credited for mitigating any accident or transient event. The mechanical stop protects the fuel cladding by limiting the reactor power increase which would result from a postulated increase in

recirculation flow, such that neither the one-percent plastic strain limit nor the Minimum Critical Power Ratio (MCPR) Safety Limit are violated. This analysis assumes that the core is being operated within the flow dependent limits for Maximum Average Planar Linear Heat Generation Rate (MAPLHGR_p) and Minimum Critical Power Ratio (MCPR_p), which are also dependent on the MG set scoop tube mechanical stop settings. Thus, although the verification of scoop tube stop setting is located in the Reactor Coolant System section of the TS, it is more correctly associated with the requirements for the MCPR Operating Limits and the APLHGR Limits.

The MCPR Operating Limits and APLHGR Limits, which are specified on a cycle specific basis in the Core Operating Limits Report, are established such that postulated transients and accidents will not, as analyzed, result in the violation of a MCPR Safety Limit or other fuel thermal/mechanical limits. Implicit in the establishment of the MCPR and APLHGR Limits is that the plant is operated and configured in accordance with the plant design and licensing basis contained in the UFSAR. Details of this configuration or routine activities needed to give reasonable assurance that the limits are satisfied is, in general, not maintained within the TS but rather within the UFSAR, which is controlled via the 10 CFR 50.59 process.

This provides the flexibility for licensee control of these details under an appropriate framework of regulatory control. The TS requirement to operate consistent with the MCPR Operating Limits and APLHGR Limits provides adequate assurance that the plant will be operated consistent with adequate protection of the public health and safety. Additionally, the proposed relocation is consistent with the BWR Improved Standard Technical Specification, NUREG-1433, Rev 1 [Reference 2], which has been approved by the NRC.

As previously discussed, this amendment also includes two changes with respect to the testing methodology in which the surveillance is performed. The bases for these changes are:

(1) Eliminating any licensing basis requirement for the electrical stops

The proposed change to eliminate any licensing basis requirement for the electrical stops is based upon the electrical stops not being credited for mitigating any accident or transient event. The function of the electrical stop is similar but not redundant to the mechanical stop; however, it does not provide as effective a means of stopping an uncontrolled increase in reactor recirculation pump speed because it is still possible for the scoop tube positioner to drive through the brake that the electrical stop applies. Furthermore, the ability for the positioner to drive through this brake is a design requirement in order to reset

the brake's limit switch. The MEOD analysis only gives credit to the mechanical stops for terminating a postulated reactor recirculation pump slow flow runout transient, if not terminated by a reactor scram.

(2) Revising the periodicity from a calendar basis to a situational basis

The proposed change in periodicity from a calendar (*i.e.*, once per 18 months) basis to a situational basis is based upon the fundamental assumption that the performance interval should coincide with the beginning of each new cycle because any change to the Recirculation System MG set speed versus core flow correlation would be expected to occur during a reload of new fuel or following maintenance.

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 significant hazards consideration assessment is presented in Enclosure 2.

ENVIRONMENTAL IMPACT

Detroit Edison has reviewed the proposed Technical Specification change against the criteria of 10CFR51.22 for environmental considerations. The proposed change does not involve a significant hazards consideration, nor significantly change the types or significantly increase the amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed Technical Specifications do meet the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement.

CONCLUSION

Based on the evaluation above: 1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and 2) such activities will be conducted in compliance with the Commission's regulations and proposed amendments will not be inimical to the common defense and security or to the health and safety of the public.

ENCLOSURE 2

**FERMI 2
NRC DOCKET 50-341
OPERATING LICENSE NPF-43**

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:

10CFR50 ALUATION

BASIS FOR SIGNIFICANT HAZARDS DETERMINATION:

The proposed Technical Specification changes described in Enclosure 1 do not involve a significant hazards consideration for the following reasons:

1. The changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change removes from the Fermi 2 Technical Specifications (TS) a Surveillance Requirement (SR 4.4.1.1.2) that is an implementation detail and relocates it to the Updated Final Safety Analysis Report (UFSAR), where it is more adequately and more appropriately controlled in accordance with 10 CFR 50.59. In addition, this proposed change revises the test methodology by: (1) eliminating the requirement for the electrical stops because they are not credited for mitigating any transients or accidents, and (2) revising the periodicity from a calendar basis to a situational basis to coincide with the beginning of each operating cycle or post-maintenance. These changes do not eliminate the necessary testing of the MG set mechanical stops. The MG set mechanical stops will continue to remain operable because the recirculation pump MG set mechanical speed stop settings will continue to be maintained at or below the required limits. The $MCPR_f$ and $MAPLHGR_f$ limits, along with the recirculation pump MG set mechanical speed stop settings on which they are based, are specified in the Core Operating Limits Report and operation within these limits is required by Technical Specifications 3.2.1 and 3.2.3. The changes described will therefore have no impact on the probability or consequences of an accident previously evaluated.

2. The changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed Technical Specification change does result in any changes to the design (equipment / configuration) or operation of the plant and will thus not create a new failure mode or common mode failure. The MG set mechanical stops will continue to operate as intended and as designed. These changes will therefore not create the possibility of a new or different kind of accident, from any accident previously evaluated.

3. The changes do not involve a significant reduction in the margin of safety.

Changes in the methodology and frequency of testing will not involve a significant reduction in the margin of safety because the testing necessary to ensure the stops are set correctly will continue to be performed. Additionally, the MCP_R and MAPLHGR_R limits, along with the recirculation pump MG set mechanical speed stop setting that they are based on, are specified in the Core Operating Limits Report, and operation within these limits is still required by Technical Specifications 3.2.1 and 3.2.3. Therefore, the margin of safety as defined in the bases of any Technical Specification is not reduced by relocating the surveillance requirement from the TS to the UFSAR. In addition to the above, relocation of the TS is consistent with the BWR Improved Standard Technical Specification, NUREG-1433, Rev. 1.