October 19, 1989

Docket No. 50-341

DISTRIBUTION
DOCKET FILE
NRC & LOCAL PDRs
PD31 GRAY FILE
JZWOLINSKI
PSHUTTLEWORTH
JSTANG
OGC
EJORDAN
BGRIMES
ACRS(10)
GHill (4)

Mr. B. Ralph Sylvia
Sr. Vice President
Nuclear Operations
6400 N. Dixie Highway
Newport, Michigan 48166

Dear Mr. Sylvia:

SUBJECT: ERRATA FOR AMENDMENT NO. 42, FERMI UNIT 2, FACILITY OPERATING LICENSE NPF-43 (TAC NOS. 72981 AND 73337)

The changes to the plant Technical Specifications (TS) implemented by License Amendment No. 42 which were transmitted to you by letter dated September 13, 1989, have been found to contain a text error. Also Bases page B 3/4 2-4a should have shown a change in the bounding curves. The enclosed errata TS changes implemented by License Amendment No. 42 are hereby transmitted and should replace the page previously transmitted.

Sincerely,

original signed by

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Offfice of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DFo1
1/1

LA/PD31:DRSP PSHUTTLEWORTH 10/17/89

PM/PD31:DRSP JSTANG 10/ /89

(A)D/PD31:DRSP JTHOMA 10/17/89

FERMI ERRATA 42 TAC72981/73337

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

October 19, 1989

Docket No. 50-341

Mr. B. Ralph Sylvia
Sr. Vice President
Nuclear Operations
6400 N. Dixie Highway
Newport, Michigan 48166

Dear Mr. Sylvia:

SUBJECT: ERRATA FOR AMENDMENT NO. 42, FERMI UNIT 2, FACILITY OPERATING LICENSE NPF-43 (TAC NOS. 72981 AND 73337)

The changes to the plant Technical Specifications (TS) implemented by License Amendment No. 42 which were transmitted to you by letter dated September 13, 1989, have been found to contain a text error. Also Bases page B 3/4 2-4a should have shown a change in the bounding curves. The enclosed errata TS changes implemented by License Amendment No. 42 are hereby transmitted and should replace the page previously transmitted.

Sincerely,

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

Mr. B. Ralph Sylvia
Detroit Edison Company

Fermi-2 Facility

cc:

Mr. Ronald C. Callen
Adv. Planning Review Section
Michigan Public Service Commission
6545 Mercantile Way
P. O. Box 30221
Lansing, Michigan 48909

John Flynn, Esq.
Senior Attorney
Detroit Edison Company
2000 Second Avenue
Detroit, Michigan 48226

Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
P. O. Box 30035
Lansing, Michigan 48909

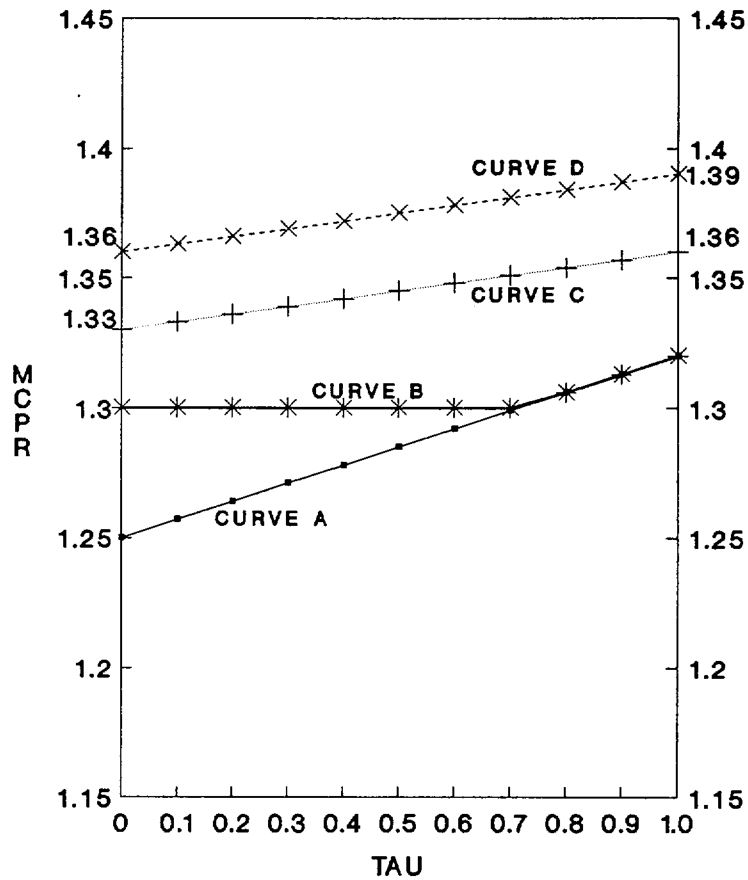
Mr. Thomas Randazzo
Director, Regulatory Affairs
Detroit Edison Company
Fermi Unit 2
6400 North Dixie Highway
Newport, Michigan 48166

Mr. Walt Rogers
U.S. Nuclear Regulatory Commission
Resident Inspector's Office
6450 W. Dixie Highway
Newport, Michigan 48166

Monroe County Office of Civil
Preparedness
963 South Raisinville
Monroe, Michigan 48161

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Ms. Lynn Goodman
Supervisor - Licensing
Detroit Edison Company
Fermi Unit 2
6400 North Dixie Highway
Newport, Michigan 48166



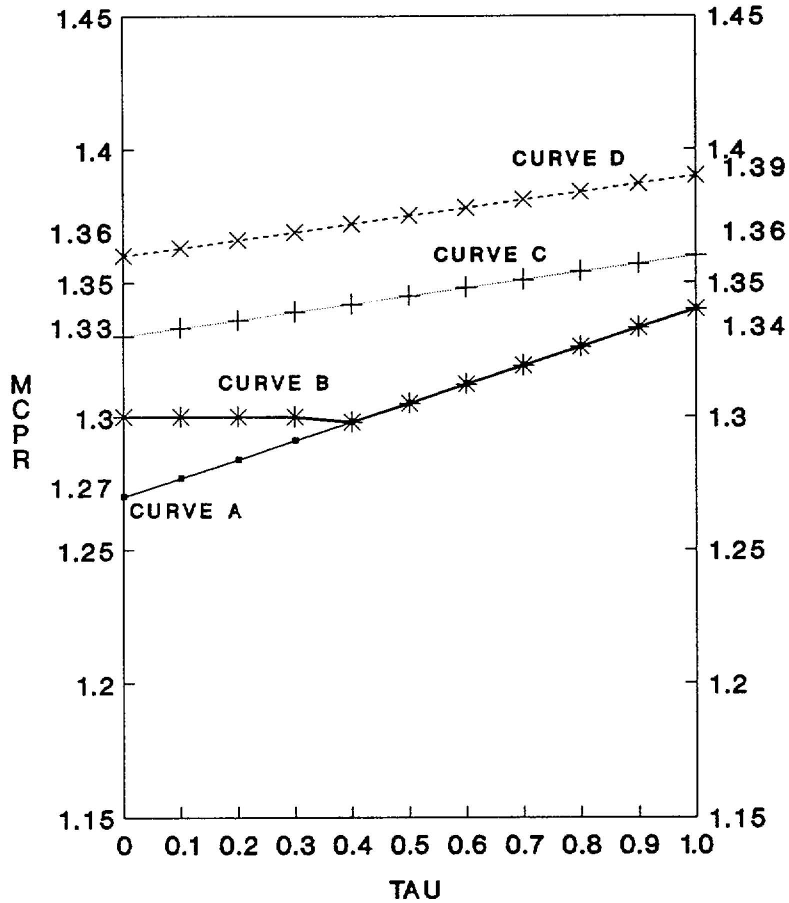
CURVE A - MCPR limit for CCC operational mode with both turbine bypass and moisture seperator reheater in service.

CURVE B - MCPR limit for non-CCC operational mode with both turbine bypass and moisture separator reheater in service.

CURVE C - MCPR limit for both CCC or non-CCC operational modes without either turbine bypass or moisture separator reheater.

CURVE D - MCPR limit for both CCC and non-CCC operational modes without both turbine bypass and moisture separator reheater.

BOC TO 12,700 MWD/ST
MINIMUM CRITICAL POWER RATIO
(MCPR) VERSUS TAU AT RATED FLOW
FIGURE 3.2.3-1



CURVE A - MCPR limit for CCC operational mode with both turbine bypass and moisture separator reheater in service.

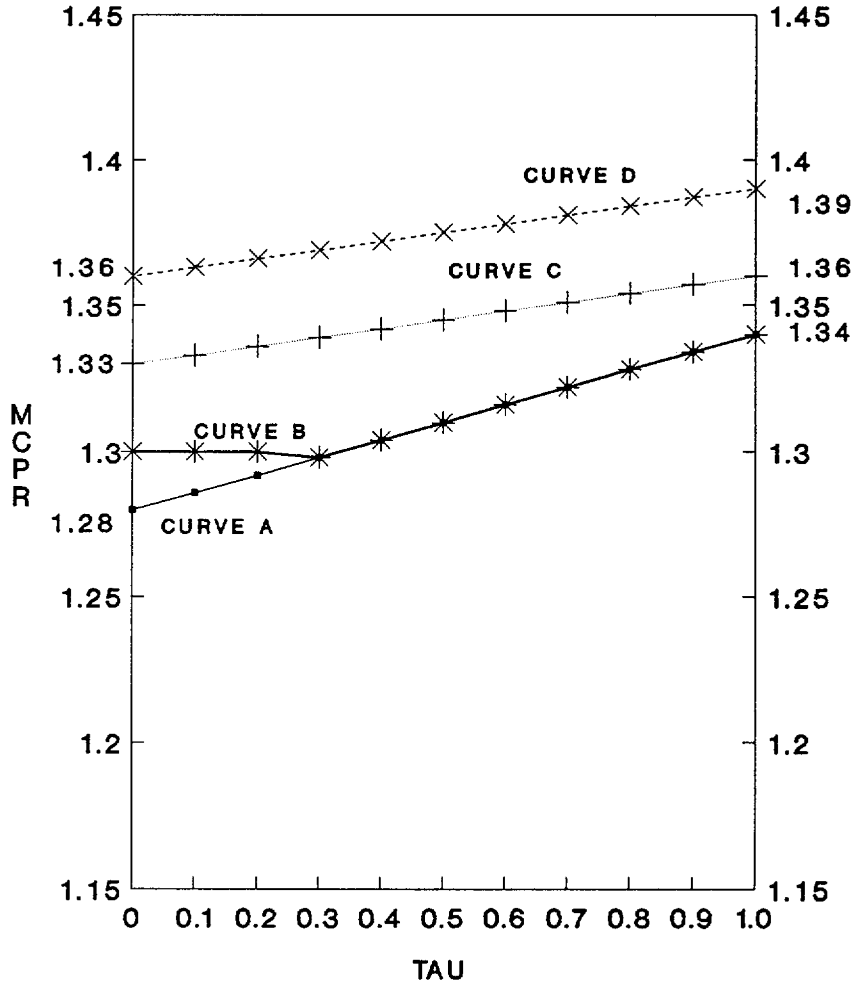
CURVE B - MCPR limit for non-CCC operational mode with both turbine bypass and moisture separator reheater in service.

CURVE C - MCPR limit for both CCC or non-CCC operational modes without either turbine bypass or moisture separator reheater.

CURVE D - MCPR limit for both CCC or non-CCC operational modes without both turbine bypass and moisture separator reheater.

12,700 MWD/ST TO 13,700 MWD/ST
MINIMUM CRITICAL POWER RATIO
(MCPR) VERSUS TAU AT RATED FLOW

FIGURE 3.2.3-1A



CURVE A - MCPR limit for CCC operational mode with both turbine bypass and moisture separator reheater in service.

CURVE B - MCPR limit for non-CCC operational mode with both turbine bypass and moisture separator reheater in service.

CURVE C - MCPR limit for both CCC and non-CCC operational modes without either turbine bypass or moisture separator reheater.

CURVE D - MCPR limit for both CCC or non-CCC operational modes without both turbine bypass and moisture separtor reheater.

13,700 MWD/ST TO EOC
MINIMUM CRITICAL POWER RATIO
VERSUS TAU AT RATED FLOW
FIGURE 3.2.3-1B

3/4.2.4 LINEAR HEAT GENERATION RATE

LIMITING CONDITION FOR OPERATION

3.2.4 The LINEAR HEAT GENERATION RATE (LHGR) shall not exceed 13.4 kw/ft for bundle types BCR183 and BCR233 or 14.4 kw/ft for bundle types BC318D and BC318E.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 25% of RATED THERMAL POWER.

ACTION:

With the LHGR of any fuel rod exceeding the limit, initiate corrective action within 15 minutes and restore the LHGR to within the limit within 2 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.4 LHGR's shall be determined to be equal to or less than the limit:

a. At least once per 24 hours,

b. Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and

c. Initially and at least once per 12 hours when the reactor is operating on a LIMITING CONTROL ROD PATTERN FOR LHGR.

d. The provisions of Specification 4.0.4 are not applicable.

3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

The design objective of the Standby Liquid Control (SLC) System is two fold. One objective is to provide backup capability for bringing the reactor from full power to a cold, Xenon-free shutdown, assuming that the withdrawn control rods remain fixed in the rated power pattern. The second objective of the SLC System is to meet the requirement of the ATWS Rule, specifically 10 CFR 50.62 paragraph (c)(4) which states that, in part:

> "Each boiling water reactor must have standby liquid control system (SLCS) with a minimum flow capacity and boron content equivalent in control capacity to 86 gallons per minute of 13 weight percent sodium pentaborate solution."

> The SLC System uses enriched Boron-10 (contained in the Sodium pentaborate solution) to comply with 10 CFR 50.62 paragraph (c)(4). The methods used to determine compliance with the ATWS Rule are in accordance with Reference 2.

To meet both objectives, it is necessary to inject a minimum quantity of 2350 net gallons of 65 atom percent Boron-10 enriched sodium pentaborate in a solution having a concentration of no less than 9.0 weight percent (see Figure 3.1.5-1 for equivalent volumes and concentration ranges). The equivalent concentration of natural boron required to shutdown the reactor is 660 parts per million (ppm) in the 70°F moderator, including the Recirculation loops and with the RHR Shutdown Cooling Subsystems in operation. In addition to this, a 25 percent margin is provided to allow for leakage and imperfect mixing (825 ppm). The pumping rate of 41.2 gpm provides a negative reactivity insertion rate over the permissible sodium pentaborate solution volume range, which adequately compensates for the positive reactivity effects due to moderator temperature reduction and xenon decay during shutdown. The temperature requirement is necessary to ensure that the sodium pentaborate remains in solution.

With redundant pumps and explosive injection valves and with a highly reliable control rod scram system, operation of the reactor is permitted to continue for short periods of time with the system inoperable or for longer periods of time with one of the redundant components inoperable. The SLC tank heaters are only required when mixing sodium pentaborate and/or water to establish the required solution operating parameters during additions to the SLC tank. Normal operation of the SLCS does not depend on these tank heaters to maintain the solution above its saturation temperature. Technical requirements have been placed on the tank heater circuit breakers to ensure that their failure will not degrade other SLC components (see Specification 3/4.8.4.5).

Surveillance requirements are established on a frequency that assures a high reliability of the system. Once the solution is established, boron concentration will not vary unless more boron or water is added, thus a check on the temperature and volume once each 24 hours assures that the solution is available for use. Analysis of Boron-10 enrichment each 18 months provides sufficient assurance that the minimum enrichment of Boron-10 will be maintained.

3/4.2.3 MINIMUM CRITICAL POWER RATIO (Continued)

100% power/flow region and the extended load line region with 100% power and reduced flow.

Curve A provides the MCPR limit assuming operation above 25 percent RATED THERMAL POWER with the turbine bypass system and moisture separator reheater in service. The curve was developed based upon the operating MCPR limits for a rod withdrawal error transient (UFSAR, Section 15.4.2) for operating within the CCC control rod patterns and a Main Turbine Trip with Turbine Bypass Failure transient (UFSAR, Section 15.2.3). CCC control rods are A2 rods, A1 shallow rods (inserted less than or equal to notch position 36), all peripheral rods, and all rods inserted to position 46. The analysis of the Main Turbine Trip with Turbine Bypass Failure takes credit for the steam flow to the moisture separator reheater.

Curve B provides the MCPR limit assuming operation above the 25 percent RATED THERMAL POWER with the turbine bypass system and moisture separator reheater system in service and non-CCC control rods inserted in the core. Non-CCC control rods are all rods excluding A2 rods, A1 shallow rods (inserted less than or equal to notch position 36), all peripheral rods, and all rods inserted to position 46. The curve was developed based upon the operating MCPR limits for a rod withdrawal error transient (UFSAR, Section 15.4.2) for any operating withdrawal sequence.

Curve C provides the MCPR limit assuming operation above the 25 percent RATED THERMAL POWER with the moisture separator reheater operable and turbine bypass system inoperable or the moisture separator reheater inoperable and the turbine bypass system operable. The curve was developed based upon the operating MCPR limits for several combinations of Feedwater Controller Failure.

Operation with main turbine bypass inoperable or with a moisture separator reheater inoperable results in a total reactor steam flow bypass capability of approximately 10 percent and 26 percent, respectively. The impact of operation with the moisture separator reheater inoperable but with bypass operable and utilization of Curve C is conservative because the 26 percent bypass capability is less limiting with regard to the existing analysis used to establish Curve C which assumes only 10 percent bypass capability (with the main turbine bypass system inoperable). Therefore, the operation above 25-percent RATED THERMAL POWER with either the moisture separator reheater inoperable or main turbine bypass system inoperable is bounded by the existing Curve C.

Curve D provides the MCPR limit assuming operation above the 25 percent RATED THERMAL POWER with both the moisture separator reheater inoperable and the turbine bypass system inoperable. The curve was developed based upon the operating MCPR limits from the Feedwater Controller Failure.

There is no mode change restraint should the main turbine bypass or the moisture separator reheater be inoperable. However, should the main turbine