

Detroit Edison



April 28, 2003
NRC-03-0042

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: 2002 Annual Reports for Fermi 2

The Fermi 2 Technical Specifications (TS) contain requirements for submitting a report for occupational radiation exposure (Technical Specification 5.6.1) and safety relief valve challenges (Technical Specification 5.6.6). Enclosures A and B are provided in accordance with Technical Specifications 5.6.1 and 5.6.6 to meet these requirements.

Enclosure C is attached and contains a report on service life of the main steam bypass lines. This satisfies the commitment stated in a Detroit Edison letter to the NRC dated November 7, 1986 (VP-86-0154).

Enclosure D is attached in accordance with 10 CFR 50.46(a)(3)(ii) and contains a report of Emergency Core Cooling System (ECCS) cooling performance evaluation model changes or errors.

Should you have any questions or require additional information, please contact me at (734) 586-4258.

Sincerely,

A handwritten signature in black ink, appearing to read 'Norman K. Peterson'.

Norman K. Peterson
Manager – Nuclear Licensing

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Enclosure A: Occupational Radiation Exposure Report
Enclosure B: Safety Relief Valve Challenge Report
Enclosure C: Service Life of Main Steam Bypass Lines
Enclosure D: ECCS Cooling Performance Evaluation Model Changes or Errors

cc: Enclosures
M. A. Ring
J. F. Stang, Jr.
NRC Resident Office
Regional Administrator, Region III
Supervisor, Electric Operators,
Michigan Public Service Commission

ENCLOSURE A

FERMI 2

OCCUPATIONAL RADIATION EXPOSURE REPORT

JANUARY 1 - DECEMBER 31, 2002

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

**Detroit Edison Fermi 2
 2002 Regulatory Guide 1.16 Secondary Dosimeter Deep Dose Equivalent (DDE) Dose Report**

Function	Department	Personnel Receiving Exposure			DDE Manrem		
		Station Employees	Utility Employees	Contract Workers	Station Employees	Utility Employees	Contract Workers
Reactor Operations & Surveillance	Maintenance	126	15	40	5.549	0.000	1.412
	Operations	128	2	24	6.866	0.007	2.094
	Health Physics	58	3	7	4.652	0.002	0.024
	Supervisory	180	31	231	1.389	0.006	1.631
	Engineering	131	7	17	0.833	0.025	0.006
Routine Maintenance	Maintenance	44	0	15	5.254	0.000	0.525
	Operations	2	0	0	0.217	0.000	0.000
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	4	2	8	0.322	0.061	0.089
	Engineering	2	1	1	0.010	0.002	0.064
Inservice Inspection	Maintenance	0	0	0	0.000	0.000	0.000
	Operations	0	0	0	0.000	0.000	0.000
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	0	0	0	0.000	0.000	0.000
	Engineering	0	0	0	0.000	0.000	0.000
Special Maintenance	Maintenance	0	1	0	0.000	0.002	0.000
	Operations	0	0	0	0.000	0.000	0.000
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	1	4	11	0.000	0.025	0.133
	Engineering	0	0	0	0.000	0.000	0.000
Waste Processing	Maintenance	0	0	0	0.000	0.000	0.000
	Operations	0	0	1	0.000	0.000	0.318
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	0	0	0	0.000	0.000	0.000
	Engineering	0	0	0	0.000	0.000	0.000
Refueling	Maintenance	0	0	0	0.000	0.000	0.000
	Operations	0	0	0	0.000	0.000	0.000
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	0	0	0	0.000	0.000	0.000
	Engineering	0	0	0	0.000	0.000	0.000
Total	Maintenance	170	16	55	10.803	0.002	1.937
	Operations	130	2	25	7.083	0.007	2.412
	Health Physics	58	3	7	4.652	0.002	0.024
	Supervisory	185	37	250	1.711	0.092	1.853
	Engineering	133	8	18	0.843	0.027	0.070
Grand Total		Personnel	1097	Manrem	31.518		

NOTE: This report was produced using only secondary external dosimetry - it does not include any internal exposure.

ENCLOSURE B

FERMI 2

SAFETY RELIEF VALVE CHALLENGE REPORT

JANUARY 1 - DECEMBER 31, 2002

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

Safety Relief Valve Challenges

There were no instances in 2002 where reactor pressure was high enough to require Safety Relief Valve (SRV) actuation. There were no instances in 2002 where an SRV actuation was demanded by an automatic logic system.

ENCLOSURE C

FERMI 2

SERVICE LIFE OF MAIN STEAM BYPASS LINES

JANUARY 1 - DECEMBER 31, 2002

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

Service Life of Main Steam Bypass Line

In accordance with a Detroit Edison letter to the NRC dated November 7, 1986 (VP-86-0154), the cumulative time the main steam bypass lines are operated with the bypass valves between 30 percent and 45 percent open will be reported annually. A cumulative value of 100 days is not to be exceeded without prior NRC notification.

Evaluations performed by Stone and Webster and by Hopper and Associates concluded that the bypass lines are acceptable for safe operation when operated within the 100 day constraint. Based on these evaluations, the new main steam bypass piping that was installed in 1985 has a service life that will allow it to function for the life of the plant under anticipated operating conditions. The main steam bypass lines cumulative usage was 38.60 days as of December 31, 2002.

ENCLOSURE D

FERMI 2

ECCS COOLING PERFORMANCE EVALUATION MODEL CHANGES OR ERRORS

JANUARY 1 - DECEMBER 31, 2002

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

ECCS Cooling Performance Evaluation Model Changes or Errors

Five errors have been identified since last year's annual report. Two of these errors affect peak clad temperature (PCT) results by 45 degrees Fahrenheit and were therefore reported to the NRC in Detroit Edison Letter NRC-02-0071 dated July 10, 2002. The remaining three errors have no impact on PCT results. A description of the five errors is provided below:

On June 13, 2002 Global Nuclear Fuel (GNF) informed Detroit Edison, in General Electric (GE) 10CFR50.46 Notification Letters 2002-01 and 2002-02, of two errors found in the GE SAFER/GESTR-LOCA code. The first error resulted in too low a value being calculated for the core spray injection elevation. The second error resulted in too high a value used for the reactor pressure vessel initial liquid inventory because the steam dryer pressure drop was not properly accounted for. The total effect of these two errors results in an increase in the PCT by 45 degrees Fahrenheit.

On August 26, 2002 GNF informed Detroit Edison, in GE 10CFR50.46 Notification Letters 2002-03, 2002-04, and 2002-05, of three additional errors in the GE SAFER/GESTR-LOCA code. The first of these three errors resulted in the use of an initial gap conductance slightly lower than it should have been. The second error involved a change in computer platform (from VAX to Alpha platform). The third error resulted in a small miscalculation of the vessel downcomer volume. None of these three errors have any impact on PCT results.

The total effect of these five errors results in an increase in the PCT by 45 degrees Fahrenheit. With the 45 degree Fahrenheit increase in PCT, the current Licensing Basis PCT for Fermi 2 is 1757 degrees Fahrenheit and there still is 443 degrees Fahrenheit margin to the 2200 degrees Fahrenheit PCT limit given in 10CFR50.46.