

Detroit Edison



April 29, 2004
NRC-04-0025

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: 2003 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 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

IESb

USNRC
NRC-04-0025
Page 2

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: w/Enclosures
D. P. Beaulieu
E. R. Duncan
NRC Resident Office
Regional Administrator, Region III
Supervisor, Electric Operators,
Michigan Public Service Commission

Enclosure A to
NRC-04-0025
Page 1 of 2

ENCLOSURE A

FERMI 2

OCCUPATIONAL RADIATION EXPOSURE REPORT

JANUARY 1 - DECEMBER 31, 2003

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

**Detroit Edison Fermi 2
 2003 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	147	48	322	10.348	0.613	17.573
	Operations	155	2	74	18.769	0.000	8.863
	Health Physics	50	6	63	7.691	0.005	6.076
	Supervisory	235	60	217	5.384	0.248	1.036
	Engineering	108	3	110	1.646	0.000	1.136
Routine Maintenance	Maintenance	49	36	339	7.239	0.892	27.425
	Operations	1	1	0	0.067	0.000	0.000
	Health Physics	1	0	0	0.005	0.000	0.000
	Supervisory	5	3	4	0.256	0.173	0.036
	Engineering	6	0	13	0.474	0.000	1.372
Inservice Inspection	Maintenance	0	0	44	0.000	0.000	7.812
	Operations	0	0	0	0.000	0.000	0.000
	Health Physics	0	0	0	0.000	0.000	0.000
	Supervisory	0	1	1	0.000	0.167	0.018
	Engineering	0	1	18	0.000	0.031	3.690
Special Maintenance	Maintenance	1	4	117	0.000	0.033	16.744
	Operations	0	0	1	0.000	0.000	0.060
	Health Physics	0	0	10	0.000	0.000	2.349
	Supervisory	1	4	12	0.002	0.109	1.338
	Engineering	0	0	2	0.000	0.000	0.006
Waste Processing	Maintenance	0	0	0	0.000	0.000	0.000
	Operations	2	0	20	0.279	0.000	1.492
	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	45	0.000	0.000	7.405
	Operations	0	0	2	0.000	0.000	0.111
	Health Physics	0	0	3	0.000	0.000	0.153
	Supervisory	0	0	1	0.000	0.000	0.007
	Engineering	0	0	10	0.000	0.000	1.189
Total	Maintenance	197	88	867	17.587	1.538	76.959
	Operations	158	3	97	19.115	0.000	10.526
	Health Physics	51	6	76	7.696	0.005	8.578
	Supervisory	241	68	235	5.642	0.697	2.435
	Engineering	114	4	153	2.120	0.031	7.393
Grand Total		Personnel	2358	Manrem	160.322		

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, 2003

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

Safety Relief Valve Challenges

On May 9, 2003, Surveillance Procedure 24.137.11, "Safety Relief Valve Operability Test," was satisfactorily performed, which cycled all 15 Safety Relief Valves (SRVs).

On August 14, 2003, a reactor scram from full power due to the loss of offsite power event caused SRVs B2104F013A, B2104F013B, B2104F013C, B2104F013D, B2104F013E, B2104F013G, B2104F013H, B2104F013J, and B2104F013K to satisfactorily lift and reseal in the Safety/Relief mode of operation.

Additionally, during the August 14, 2003, loss of offsite power event, SRV B2104F013A was operated automatically in Low-Low Set mode of operation and satisfactorily cycled an estimated 197 times between 1610 hours on August 14, 2003, and approximately 0330 hours on August 16, 2003. Details concerning this estimate are as follows:

- SRV B2104F013A cycled 15 times between 1610 hours and 1721 hours on August 14, 2003, based upon data from the Integrated Plant Computer System (IPCS).
- The IPCS was taken out of service to limit battery use at 1721 hours on August 14, 2003, and was restored at 0422 hours on August 15, 2003. Using Reactor Pressure Vessel (RPV) pressure data and SRV lift rates before and after the time the IPCS was taken out of service, it is estimated that SRV B2104F013A cycled 99 times.
- SRV B2104F013A cycled 83 times between 0422 hours on August 15, 2003, and approximately 0330 hours on August 16, 2003, when the plant was depressurized. This is based upon data from the IPCS.

ENCLOSURE C

FERMI 2

SERVICE LIFE OF MAIN STEAM BYPASS LINES

JANUARY 1 - DECEMBER 31, 2003

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

Service Life of Main Steam Bypass Line

In accordance with 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 39.57 days as of December 31, 2003.

ENCLOSURE D

FERMI 2

ECCS COOLING PERFORMANCE EVALUATION MODEL CHANGES OR ERRORS

JANUARY 1 - DECEMBER 31, 2003

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

ECCS Cooling Performance Evaluation Model Changes or Errors

Two errors have been identified since last year's annual report. The effect of one of these errors results in a decrease in the peak clad temperature (PCT) by 5 degrees Fahrenheit and was reported to the NRC in Detroit Edison Letter NRC-03-0051 dated May 3, 2003. The second error had no impact on PCT results and was therefore not previously reported. A description of the two errors is provided below:

On May 6, 2003, Global Nuclear Fuel (GNF) informed Detroit Edison, in General Electric (GE) 10 CFR 50.46 Notification Letters 2003-01 and 2003-03 of two errors found in the GE SAFER/GESTR-LOCA code. The first error consisted of using too low of a value for the RPV initial liquid mass. The effect of this error results in a decrease in the peak clad temperature (PCT) by 5 degrees Fahrenheit. The second error consisted of using a wrong loss coefficient for the steam separator. This error resulted in a higher initial steam separator pressure drop and overly restricted the flow through the separator during the LOCA event. This second error has no impact on PCT results.

The total effect of these two errors results in a decrease in the PCT by 5 degrees Fahrenheit. With the 5 degree Fahrenheit decrease in PCT, the current Licensing Basis PCT for Fermi 2 is 1752 degrees Fahrenheit and there still is 448 degrees Fahrenheit margin to the 2200 degrees Fahrenheit PCT limit given in 10 CFR 50.46.