FERMI 2

ANNUAL OPERATING REPORT

JANUARY 1 - DECEMBER 31, 1988

DETROIT EDISON COMPANY

NRC DOCKET NO. 50-341

FACILITY OPERATING LICENSE NO. NPF-43

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1.0 Introduction

The Fermi 2 Nuclear Power Plant site is located on the western shore of Lake Erie in Frenchtown Township, Monroe County, Michigan. The Nuclear Steam Supply System is a General Electric BWR 4, with a pressure-suppression Mark I containment. The plant is owned jointly by the Detroit Edison Company (approximately 90 percent) and the Wolverine Power Supply Cooperative, Incorporated (approximately 10 percent.) Detroit Edison has reached agreement with Wolverine Power Supply Cooperative Inc. to purchase the Cooperative's remaining ownership interest in Fermi 2 effective January 1, 1990. Detroit Edison has exclusive responsibility and control over the operation and maintenance of the facility.

2.0 Summary of Operating Experience

2.1 Summary of Operations

This summary covers the operation of Fermi 2 for the period from January 1, 1988 to December 31, 1988. At the beginning of 1988, Fermi 2 was restricted to the seventy-five percent (75%) power level. On January 15, 1988, the NRC issued authorization to operate at one hundred percent (100%) power. After operating the plant for one hundred consecutive hours at greater than ninety percent (90%) power, Fermi 2 achieved commercial status on January 23, 1988.

On February 27, 1988, Fermi 2 shut down as required by Technical Specifications approximately 14 hours before the scheduled Main Steam Isolation Valve (MSIV) closure test was to occur. The plant entered a Local Leak Rate Testing outage which continued until mid-May. During this outage, extensive work was performed on the moisture separator reheaters.

On May 23 and July 13 of 1988, Fermi 2 experienced contamination of certain areas of the reactor building due to the failure of several compression fittings. Cleanup efforts have restored the plant to near normal conditions.

The plant operated until late July when a Technical Specification requirement called for shutdown of the plant due to increased unidentified leakage in the drywell. Operation was resumed in early August.

In late August, startup testing uncovered problems with the torque switch settings on a Low Pressure Coolant Injection (LPCI) system loop select valve (Recirculation System Pump B discharge valve) which consequently required a shutdown of the plant until early October. During that period of time the torque and limit switch settings on safety-related motor operated valves were re-evaluated and adjusted as necessary.

On November 1, 1988, Fermi 2 successfully completed the MSIV closure test and remote shutdown from outside the Control Room. After returning to operation on November 8, 1988, Fermi 2 ran the remainder of the year without any more significant outages. The warranty run was completed on November 18, 1988, which concluded the Startup Testing Program.

Since achieving commercial status in January of 1988, Fermi 2 has generated 4,060,056 MWH (net) and has had an availability rating of 57.2% for the year. The unit was in a forced outage for 21.4% of the time since achieving commercial status.

2.2 Summary of Outages and Forced Reductions Greater than 20 Percent of Full Power

January, 1988

Continuation of December 31 forced shutdown - 207.4 hours

During the installation of a temporary modification, a lead grounded in error causing a false demand signal for increased feedwater flow. This resulted in high reactor water level, turbine control valve fast closure and a reactor scram. Corrective actions included counselling the individuals involved and revising the temporary modification procedure. Reported as LER 87-056 dated January 30, 1988.

Before resuming power ascension it was discovered that the Average Power Range Monitors (APRM) setdown trip had been procedurally set too high. The APRM setdown trip was recalibrated and the applicable procedure revised.

January 10, forced shutdown - 14 hours

The power supply to the North Reactor Feed Pump speed controller failed. This resulted in a low reactor vessel level scram. The power supply was replaced.

February, 1988

February 27, forced shutdown - 13.9 hours
scheduled outage - 57.8 hours

Fermi 2 was shutdown hours before a scheduled Local Leak Rate Test (LLRT) outage. A review of the Emergency Diesel Generator (EDG) surveillance procedures revealed that the functional tests of the EDG buses did not meet all of the requirements of the Technical Specifications. Corrective actions were to revise the surveillance procedures to include additional logic system functional testing. The surveillance procedures were completed successfully. The plant entered the scheduled Local Leak Rate Testing outage.

March, 1988

Scheduled outage - 744 hours

An outage had been planned to complete Local Leak Rate Tests (LLRT) required by Technical Specifications, complete specific plant modifications (Engineering Design Packages and Potential Design Changes) that would enhance plant availability, bring the plant current with preventive maintenance requirements, and complete specific corrective maintenance activities. All eighteen month surveillance procedures (completion due dates up to June, 1989) that had the potential to challenge plant safety systems if performed while at power were added to the scope. All work was to be done without the traditional Reactor Pressure Vessel (RPV) head removal. This necessitated divisionalization of the outage and planning work to ensure that two suitable methods of decay heat removal were available at all times.

The Moisture Separator Reheaters (MSRs), Main Steam Condenser, and Condensate Pumps were all suspected to have problems associated with them before the outage began and were examined early in the outage. Investigation revealed that the MSRs had sustained flow induced damage which included damage to the primary and secondary steam distribution plates (including their supports) and the

de-mister pads. Damage discovered during the outage was repaired.

MOVATS testing was performed during the outage. This diagnostic device uncovered a "hydraulic locking" that did, or could, exist in Limitorque operators. As a result, all fast-acting valves had their spring packs removed and cleaned and the actuator grease replaced.

April, 1988

Continuation of scheduled LLRT outage - 719 hours

May, 1988

Continuation of scheduled LLRT outage - 314 hours

Prior to synchronizing the turbine at the end of the outage three scrams occurred. First, a raccoon climbing the system transformer caused a ground fault. In accordance with Technical Specifications, a manual scram was initiated since reactor pressure was less than 300 psig. Second, operators performed a HPCI automatic transfer surveillance which directed feedwater flow to the condensate storage tank. The resultant low vessel level caused a scram signal. Finally, while testing the electrical overspeed protection to the turbine generator, a relay failure caused the main steam bypass valves to close. A high pressure scram resulted. The relay was replaced.

May 28, scheduled power reduction - 40 hours

Reactor power was reduced during the isolation of the Reactor Water Cleanup (RWCU) system for completion of a routine surveillance test. The power reduction was necessary to maintain reactor coolant sulfate levels below EPRI guidelines. Power was increased upon restoration of the RWCU system.

June, 1988

No outages or forced reductions

July, 1988

July 23, forced shutdown - 206.5 hours

Unidentified leakage in the drywell increased until shutdown of the plant was necessitated in accordance with Technical Specifications. Two valves which were leaking were repaired and some items on the forced outage schedule were worked.

August, 1988

Continuation of July 23 forced shutdown - 170.3 hours

August 8, forced power reduction - 29.3 hours

A steam leak from the separator seal tank developed. Power was reduced and the turbine tripped to make the necessary repairs.

August 13, forced outage - 37.4 hours

A high vibration signal on turbine bearings 8 and 9 was received. An automatic scram occurred per design. A temperature control valve for the main lube oil coolers had failed open. The valve was repaired.

August 21, forced outage - 100 hours

During scheduled Startup Testing, the Low Pressure Coolant Injection (LPCI) loop select logic was declared inoperable due to the inability to close Recirculation Pump B Discharge Valve B31-F013B. Three of the four valve operator leads were found to be loose and were tightened.

August 28, forced outage - 77.5 hours

The LPCI loop select logic remained inoperable due to the inability of the B31-F013B valve to close. It was discovered that the torque switch was not properly reset following replacement of the operator in 1984.

September, 1988

Continuation of August 28 forced outage - 720 hours

October, 1988

Continuation of August 28 forced outage - 169 hours

November, 1988

November 1, scheduled shutdown - 168.9 hours

Performed Main Steam Isolation Valve (MSIV) closure test from full power and remote shutdown from outside the Control Room as part of the Startup Test program. The Startup Test program was completed November 8, 1988.

December, 1988

No outages or forced reductions.

2.3 Fuel Performance

At the beginning of the year, the plant was in cold shutdown. The year ended with the plant operating at full power in the A2 control rod sequence. There were 11 startups, 4 scrams, and six controlled shutdowns. Total energy generation during 1988 was 173.4 Effective Full Power Days (EFPD). End of year core exposure was 254.6 EFPD, with 192.6 EFPD remaining in the cycle. The longest period of continuous critical operation was 72 days from May 12, 1988 to July 23, 1988.

Control rod sequence exchanges occurred while shutdown on May 5, 1988 (B2 to A1) and August 6, 1988 (A1 to B1). A sequence exchange was performed at 45% power on December 17, 1988 (B1 to A2). At the end of the year, there were no power restrictions and startup testing was complete. The fuel thermal limits were maintained within the required specifications for the entire year. There were no indications of failed fuel rods.

2.4 Shore Barrier Survey

A survey of the Fermi 2 shore barrier was completed on October 20, 1988, per Procedure 43.000.01, "Shore Barrier Surveillance", and as required by Technical Specification 3.7.3. The results of the survey indicated no damage, significant movement, or deterioration of the barrier. All forty-seven (47) survey point elevations were within the tolerance specified in Technical Specification Table

3.7.3-1. Civil Engineering Drawings 6C721-44 through 49 were revised to incorporate the survey data. No unusual incidents occurred in 1988 that would have required additional surveillance.

2.5 Safety Relief Valve Challenges

A Full Reactor Isolation was performed in Test Condition Six at 98.1% Core Thermal Power (CTP) to determine the transient behavior of the Reactor during and subsequent to a simultaneous fast closure of all Main Steam Isolation Valves (MSIV). The test simulated low Main Steam Line pressure and resulted in a Group I isolation.

The resulting pressure and water level transients were observed to assess the adequacy of system response to that predicted by the Transient Safety Analysis Design Report (TSADR). As a result of this testing, the following safety relief valve actuations occurred:

SRV "A" (1110#)	-	tailpipe pressure switch actuation - duration 92 seconds.
SRV "A"	-	reseated at pressure of 913.2 psig.
2nd SRV actuation	-	Reactor Pressure Vessel pressure 1021.1 psig.
Low-Low set SRV "A"	-	duration 153 seconds. Reseat at 913.2 psig.
SRV "B" (1110#)	-	tailpipe pressure switch actuation - duration 14 seconds.
SRV "C" (1110#)	-	tailpipe pressure switch actuation - duration 13 seconds.
SRV "G" (1110#)	-	tailpipe pressure switch actuation - duration 48 seconds.
SRV "G"	-	reseat pressure 913.2 psig (Note: "G" did not reopen since "A" functioned as designed for the low-low set logic).
SRV "H" (1130#)	-	tailpipe pressure switch actuation - duration 2.5 seconds.
SRV "J" (1130#)	-	tailpipe pressure switch actuation - duration 4 seconds.

The relief valves that opened or were opened during the MSIV test did reclose, but some "weeping" existed as evidenced by the failure of SRVs A, K, H, J, and R discharge temperatures to return to within 10°F of the temperature recorded prior to MSIV closure. (Note: SRVs "K" and "R" did not automatically open during this test but were manually actuated.) After the return of the plant to power operation, only SRVs "A" and "M" still showed weeping. This information is under evaluation and will be resolved by the In-Service Inspection organization.

2.6 Personnel Monitoring and Exposure

Pursuant to 10CFR20.407(a)(2), a tabulation of the number of individuals for whom monitoring was provided is shown in Table 2.6-1.

Table 2.6-2 provides a breakdown of radiation exposure by work and job function as required by Technical Specification 6.9.1.5(a).

Table 2.6-1

Statistical Summary Report
of the Number of Individuals for Whom
Personnel Monitoring was Provided
For the Period
January 1, 1988, to December 31, 1988

NUMBER OF INDIVIDUALS IN EACH RANGE	ESTIMATED WHOLE BODY EXPOSURE RANGE (REMS)	
2002	No Measurable Exposure	
648	Exposure <	.100
214	.100 to	.249
77	.250 to	.499
22	.500 to	.749
3	.750 to	.999
1	1.000 to	1.999
0	2.000 to	2.999
0	3.000 to	3.999
0	4.000 to	4.999
0	5.000 to	5.999
0	6.000 to	6.999
0	7.000 to	7.999
0	8.000 to	8.999
0	9.000 to	9.999
0	10.000 to	10.999
0	11.000 to	11.999
0	12.000 and Over	

TABLE 2.6-2

ANNUAL EXPOSURE REPORT BY FUNCTION
01/01/88 to 12/31/88

Work & Job Function	Number of Personnel > 100 MRem			Total Man-Rem		
	Station Employees	Utility Employees	Contractors and Others	Station Employees	Utility Employees	Contractors and Others
Reactor Ops & Surveillance						
Maintenance Personnel	5	0	2	1.273	.000	.610
Operating Personnel	36	0	6	10.519	.000	1.140
Health Physics Personnel	28	0	14	10.043	.000	3.857
Supervisory Personnel	0	0	0	.480	.000	.283
Engineering Personnel	3	0	0	.904	.009	.352
Routine Maintenance						
Maintenance Personnel	4	0	22	2.429	.037	10.061
Operating Personnel	0	0	0	.000	.000	.126
Health Physics Personnel	0	0	0	.009	.000	.000
Supervisory Personnel	0	0	0	.360	.000	.302
Engineering Personnel	0	0	0	.129	.005	.285
Inservice Inspection						
Maintenance Personnel	3	0	15	1.265	.000	3.466
Operating Personnel	0	0	0	.446	.000	.087
Health Physics Personnel	0	0	0	.621	.000	.170
Supervisory Personnel	0	0	0	.105	.000	.164
Engineering Personnel	1	0	4	.384	.000	.773
Special Maintenance						
Maintenance Personnel	14	0	105	4.618	.032	30.353
Operating Personnel	0	0	13	.250	.000	3.008
Health Physics Personnel	11	0	12	2.284	.000	2.830
Supervisory Personnel	1	0	1	.735	.009	.897
Engineering Personnel	0	0	0	.210	.000	.533
Waste Processing						
Maintenance Personnel	0	0	0	.041	.000	.090
Operating Personnel	0	0	21	.034	.000	4.919
Health Physics Personnel	0	0	1	.207	.000	.320
Supervisory Personnel	0	0	0	.013	.000	.026
Engineering Personnel	0	0	0	.000	.000	.009
Refueling						
Maintenance Personnel	0	0	0	.000	.000	.000
Operating Personnel	0	0	0	.000	.000	.000
Health Physics Personnel	0	0	0	.000	.000	.000
Supervisory Personnel	0	0	0	.000	.000	.000
Engineering Personnel	0	0	0	.000	.000	.000
Totals						
Maintenance Personnel	26	0	144	9.626	.069	44.580
Operating Personnel	36	0	40	11.249	.000	9.281
Health Physics Personnel	39	0	27	13.164	.000	7.177
Supervisory Personnel	1	0	1	1.693	.009	1.572
Engineering Personnel	4	0	4	1.626	.014	1.952
Grand Totals	106	0	216	37.358	.092	64.662

2.7 Service Life of Main Steam Bypass Line

In accordance with Detroit Edison letter VP-86-0154 dated November 7, 1986, the cumulative time the Main Steam Bypass Lines are operated with the bypass valves between 30% and 45% opened 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 which will allow it to remain in service for the life of the plant under anticipated operating conditions. The cumulative value for 1988 is 4.9, well within the constraint of 100 days.

2.8 Specific Activity Analysis of the Primary Coolant Exceeding the Limits of Technical Specification 3.4.5

During 1988 the specific activity of the primary coolant did not exceed the limits of Technical Specification 3.4.5.

2.9 ECCS Outages

Pursuant to Fermi 2 Technical Specification 6.9.1.5.c, a summary of ECCS System Outages which occurred between January 1, 1988 and December 31, 1988 is provided. The tabulation of ECCS outage hours (Table 2.9-1) includes both forced and planned outages for the Core Spray, LPCI, ADS, and HPCI systems. An outage was considered to be whenever one of the ECCS systems was out-of-service at a time it was required to be operable per Technical Specifications.

Table 2.9-1

ECCS Outage Hours
January 1, 1988 to December 31, 1988

ECCS System Hours	Forced Hours	Planned
LPCI Division I	9.7	293.5
LPCI Division II	478.3	185.4
Core Spray Division I	0.3	131.2
Core Spray Division II	12.7	68.8
HPCI	42.9	205.9
ADS	95.5	0.0

ECCS System Outage: Division I Low Pressure Coolant Injection
Out of Service from 0618 2/11/88 to 2355 2/13/88
Duration: 65.6 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection system was removed from service to perform Preventive Maintenance (PM) on pumps "A" and "C". Following completion of the PM tasks and required surveillance tests, the Division I Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division I Low Pressure Coolant Injection
Out of Service from 0230 5/14/88 to 2225 5/16/88
Duration: 67.9 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection system was removed from service to perform Preventive Maintenance (PM) on RHR pump "A" and miscellaneous other tasks. Following completion of the PM tasks and required surveillance tests, the Division I Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division I Low Pressure Coolant Injection
Out of Service from 0500 10/18/88 to 2100 10/24/88
Duration: 160 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection system was removed from service for various Preventive Maintenance (PM) tasks, (i.e., Hi-Pot tests, visual inspections, temperature detector recalibration, etc.). Upon completion of the scheduled PM tasks, the Division I Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division I Low Pressure Coolant Injection
Out of Service from 1015 10/26/88 to 1959 10/26/88
Duration: 9.7 hours Forced Outage

Outage Summary:

The Division I Low Pressure Coolant Injection system was removed from service to replace a Rosemont trip unit (E11-N655A) for RHR Pump "A" input into the Automatic Depressurization System (ADS) logic. The work request was completed and the RHR Pump "A" Discharge Pressure (ADS Permissive) calibration surveillance was run successfully. The Division I Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 1938 1/9/88 to 2311 1/9/88
Duration: 3.6 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform a routine surveillance test. Following completion of the surveillance test, the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 1349 1/10/88 **to** 1458 1/10/88
Duration: 1.2 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service when RHR pumps "B" and "D" were inadvertently placed in the "Off/Reset" position while preparing to place Division II RHR in shutdown cooling. Both Pumps "B" and "D" were placed back in the "Auto" position and the Division II Low Pressure Ccolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0457 2/23/88 **to** 2323 2/25/88
Duration: 66.4 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform Preventive Maintenance (PM) on the pump motors (meggering, cleaning and inspection) and the room cooler. Following completion of the PM tasks and required surveillance tests, the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0355 4/9/88 **to** 2330 4/13/88
Duration: 115.5 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to repair a cracked and leaking weld on the pump "D" suction line tap for E11-F160D. The crack developed as the result of running the pump dead-headed for approximately 30 minutes. The weld was repaired and the pump returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 2300 6/25/88 **to** 2330 6/28/88
Duration: 72.5 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service after failing a surveillance test due to an indicated flow of less than 10,000 gpm. A work request was initiated and completed to correct the flow indication problem. The surveillance test was performed again successfully. The Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0800 8/10/88 **to** 0050 8/13/88
Duration: 64.8 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform various Preventive Maintenance (PM) tasks. Following completion of the PMs and required surveillance tests, the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0630 8/13/88 **to** 1515 8/13/88
Duration: 8.8 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform Preventive Maintenance (PM) on RHR pump "D" and valve B31-F004D. Following completion of the PM tasks and required surveillance tests, the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 1325 8/15/88 to 1053 8/16/88
Duration: 21.5 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform selected Preventive Maintenance (PM) tasks on RHR pump "D". Following completion of the PM tasks and required surveillance tests for RHR Pump "D", the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 1640 8/20/88 to 1227 8/21/88
Duration: 19.6 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service when the Recirculation Pump B Discharge Valve (B31-F031B) would not close following pump trip for a Test Condition 4 Startup test. Valve inspection indicated that three of four valve operator leads were loose. The loose leads were tightened and the Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 1450 8/28/88 to 2019 9/8/88
Duration: 269.5 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service when the B31-F031B valve again would not close while performing the Startup Test. As a result, a generic inspection of selected MOVs for torque and limit switch settings was initiated. The valve torque and limit switch settings were corrected and the valve passed its required tests. The Division II Low Pressure Coolant Injection system was returned to service.

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0550 10/28/88 to 0205 10/29/88
Duration: 20.3 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection system was removed from service to perform various Preventive Maintenance (PM) tasks (relube, oil change) on RHR cooling tower fans "B" and "D". Upon completion of the PM tasks, Division II Low Pressure Coolant Injection was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 0600 1/12/88 to 2255 1/12/88
Duration: 16.9 hours Planned Outage

Outage Summary:

The Division I Core Spray system was removed from service to perform Preventive Maintenance (PM) on the room cooler and various valves. Following completion of the PM tasks and required surveillance tests, the Division I Core Spray system was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 2306 3/26/88 to 0119 3/27/88
Duration: 2.2 hours Planned Outage

Outage Summary:

The Division I Core Spray system was removed from service to perform routine surveillance testing. Upon completion of the test the Division I Core Spray system was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 0528 6/28/88 to 0300 7/1/88
Duration: 69.5 hours Planned Outage

Outage Summary:

The Division I Core Spray system was removed from service to perform Preventive Maintenance (PM) on Core Spray Pump "C" and the room cooler. Following completion of PM tasks and required surveillance tests, the Division I Core Spray system was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 1415 9/13/88 **to** 1430 9/13/88
Duration: 0.3 hours Forced Outage

Outage Summary:

The Division I Core Spray system was removed from service when valve E21-F007A was inadvertently closed. The valve was re-opened immediately and the Division I Core Spray system was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 0425 12/13/88 **to** 0110 12/15/88
Duration: 44.8 hours Planned Outage

Outage Summary:

The Division I Core Spray system was removed from service to perform Preventive Maintenance (PM) on Pumps "A" and "C". Both motors were meggered and term boxes inspected. Temperature detectors were checked and calibrated on both pumps as well. The Division I Core Spray system was returned to service following the preventive maintenance.

ECCS System Outage: Division II Core Spray
Out of Service from 2050 1/28/88 **to** 0930 1/29/88
Duration: 12.7 hours Forced Outage

Outage Summary:

The Division II Core Spray system was removed from service when the pumps were sprayed with condensation and steam. The Division II Core Spray system was returned to service after the pumps were dried and meggered.

ECCS System Outage: Division II Core Spray
Out of Service from 0541 10/25/88 **to** 0230 10/28/88
Duration: 68.8 hours Planned Outage

Outage Summary:

The Division II Core Spray system was removed from service to perform Preventive Maintenance (PM) on breakers, relays and motors for Pumps "B" and "D". Upon completion of the PM tasks, the Division II Core Spray system was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1235 1/26/88 to 0051 1/27/88
Duration: 12.3 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection system was removed from service when it was discovered that the thermal overloads for valve E41-F012 were not tested as required. The thermal overloads were tested per applicable surveillance requirements and the High Pressure Coolant Injection system was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0600 6/7/88 to 2000 6/10/88
Duration: 86.0 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection system was removed from service to perform various Preventive Maintenance (PM) tasks. Following completion of the PM tasks and required surveillance tests, the High Pressure Coolant Injection system was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0500 11/20/88 to 0445 11/25/88
Duration: 119.9 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection system was removed from service to perform Preventive Maintenance (PM) on process instrumentation. Upon completion of the various PM tasks, the High Pressure Coolant Injection system was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1558 12/28/88 **to** 2230 12/29/88
Duration: 30.5 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection system was removed from service by isolating valve E41-F600 to perform a surveillance test following Instrumentation and Controls work on the E41-N660B Trip Unit. The work request was completed and all required surveillances were run. The High Pressure Coolant Injections system was then returned to "Standby" mode of operation.

ECCS System Outage: Automatic Depressurization System
Out of Service from 0725 5/26/88 **to** 0654 5/30/88
Duration: 95.5 hours Forced Outage

Outage Summary:

The Automatic Depressurization system was removed from service when alarm 1D36 - ADS Channel B ECCS Pump Permissive was received when no ECCS pumps were running. A work request was initiated to troubleshoot and correct the problem. The Automatic Depressurization system was then returned to service.

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Reference: Fermi 2
NRC Docket No. 50-341
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Subject: 1988 Annual Operating Report for Fermi 2

In accordance with Fermi 2 Technical Specification 6.9.1.4 and NRC Regulatory Guide 1.16, the Detroit Edison Company is submitting the Annual Operating Report for the Fermi 2 Nuclear Power Plant for the period of January 1, 1988 through December 31, 1988.

The 1988 Fermi 2 Annual Operating Report also satisfies the reporting requirements of 10CFR20.407, (Personnel Monitoring Report), Technical Specification 6.9.1.5.a (Annual Exposure Report by Function), Technical Specification 6.9.1.5.b (Safety/Relief Valve Challenges), Technical Specification 6.9.1.5.c (Emergency Core Cooling System Outages), and Technical Specification 6.9.1.5.d (Specific Activity Analysis of the Primary Coolant). In addition, the 1988 Annual Operating Report includes a section on service life of the main steam bypass line. This satisfies the commitment stated in Detroit Edison letter VP-86-0154 to the Nuclear Regulatory Commission dated November 7, 1986.

If you have any questions or comments regarding this report, please contact Mr. Arnold Jaufmann at (313) 586-4213.

Sincerely,

B Ralph Sylvia

Enclosure

cc: Mr. A. B. Davis
Mr. R. C. Knop
Mr. W. G. Rogers
Mr. J. F. Stang

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