FERMI 2

ANNUAL OPERATING REPORT

JANUARY 1 - DECEMBER 31, 1990

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 Mark I pressure-suppression containment. The plant became fully owned by the Detroit Edison Company as of February 21, 1990.

2.0 Summary of Operating Experience

2.1 Summary of Operations

This summary covers the operation of Fermi 2 from January 1, 1990 to December 31, 1990. During this period, Fermi 2 generated 7,098,453 MWH (net) and was available 82.9% of the time. The forced outage rate was 1.7%.

The plant was on line from January 1 until April 10. On April 10, the Reactor Protection System (RPS) motor-generator set "A" tripped due to a coil failure in the K1 relay. While the operators were verifying plant response and preparing to restore power, the inboard Main Steam Isolation Valves closed on low pneumatic supply pressure. This resulted in a reactor scram and subsequent turbine trip.

The plant went back on line April 15. On June 26, a turbine generator load reduction was made in order to repair tube leaks in the east condenser water box. On June 30, the plant was shutdown. Tube leaks in the 5 north feedwater heater were repaired and other scheduled maintenance activities were performed.

The plant went back on line July 11. On September 29, the plant entered a scheduled maintenance outage to test and repair various feedwater heaters.

On October 6, the plant was in startup and holding while plant personnel were investigating reactor water level indication discrepancies. The discrepancy was noted during a channel check prior to heat-up. Shortly thereafter, a reactor scram on Low Reactor Water Level occurred.

The plant went back on line October 9. On November 25, due to significant changes in turbine bearing vibration (did not exceed manufacturer's limits), power was reduced as a precautionary measure and the plant was shutdown. An inspection of the No. 3 Low Pressure Turbine revealed damage

to both the shroud and the blades. Turbine work included removal of the fourth-stage blading, ultrasonic testing of the turbine discs and shaft, weld repairs on the inner cylinder, and installation of pressure reducing plates. The plant was shutdown until the end of the year.

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

January, 1990

- January 8, 1990 - power reduction

  Reduced power to approximately 38% of rated power in anticipation of shutdown for ESF testability panel fuse replacement.

- January 13, 1990 - power reduction

  Reduced power to approximately 59% of rated power to repair steam leaks and perform control rod pattern adjustment.

February, 1990

- February 11-14, 1990 - power reduction

  Reduced power to approximately 50% of rated power in order to plug tube leaks in the west side of the condenser and repair a seal leak on a heater feed pump. Performed additional scheduled maintenance while at a reduced power level.

- February 17, 1990 - power reduction

  Reduced power to approximately 78% of rated power to enable a steam tunnel entry for repairs to valve G33-F120.

March, 1990

- March 31, 1990 - power reduction

  Reduced power to perform weekly turbine steam valve surveillance and then continued to approximately 60% power for a control rod pattern adjustment and scram time testing

April, 1990

- April 10-15, 1990 - 129.3 hours - shutdown

  The coil of the K1 relay for the Division I RPS motor-generator set A burned up. This caused a loss of Division I power and subsequently various isolations occurred, including Division 1 Drywell pneumatics. Leakage in the isolation pneumatic system was such that the inboard MSIVs closed in approximately 6 minutes; resulting in a scram. This was reported in Licensee Event Report (LER) 90-003.

- April 24-30, 1990 - power reduction

  Reduced power to replace leaking MSIV leakage control valve B21F434 and perform scheduled maintenance. Also, a leaking MSIV instrument pressure tap valve was repaired.

May, 1990

- May 1-4, 1990 - power reduction

  Reduced power from April continued due to a trip of the north reactor feedwater pump.

- May 19, 1990 - power reduction

  Reduced power to approximately 74% to perform turbine valve and control rod drive operability surveillances. Also, a control rod pattern adjustment was performed.

June, 1990

- June 26-29, 1990 - power reduction

  Reduced power to repair tube leaks in the east condenser water box.

- June 30, 1990 - 12.5 hours - shutdown

  Further load reduction was made until black and white control board conditions were reached. A manual scram was then initiated successfully. Tube leaks in the 5 north feedwater heater were repaired and other scheduled maintenance activities were performed.

July, 1990

- July 1-6, 1990 - 127 hours - shutdown

  Repairs continued from June on the tube leaks in the 5 north feedwater heater. The main turbine was balanced and other scheduled maintenance was completed.

- July 7-11, 1990 - power reduction/turbine shutdown

  Reduced reactor power and took the turbine off line to repair 5 south feedwater heater relief valve and a 10-inch valve (E41-F003) on the high pressure coolant injection system. The reactor remained critical during this power reduction.

- July 14, 1990 - power reduction

  Reduced power from approximately 88% to 62% to perform a control rod pattern adjustment.

- July 28-29, 1990 - power reduction

  Reduced power to allow cleaning of the main generator hydrogen coolers.

August, 1990

- August 2-3, 1990 - power reduction

  Reduced power to approximately 59% to repair a vent line on the No. 5 north feedwater heater.

- August 4-5, 1990 - power reduction

  A power reduction was made to enter single recirculation loop operation for replacement of the recirculation pump "B" tachometer.

September, 1990

- September 29-30, 1990 - 44 hours - shutdown

  Entered a scheduled maintenance outage to test and repair various feedwater heaters.

October, 1990

- October 1-9, 1990 - 209.9 hours - shutdown

  Repairs continued from September on the scheduled maintenance outage to test and repair the various feedwater heaters. Tube leaks were discovered and plugged and other planned maintenance activities were conducted.

  During startup on October 6, a reactor scram occurred on a low reactor vessel water level discrepancy.

- October 13, 1990 - power reduction

  Reduced power to perform routine turbine valve and control rod surveillance tests. Power was further reduced to 60% to make final control rod pattern adjustments.

November, 1990

- November 8-24, 1990 - power reduction

  Reduced power to approximately 85% to relieve stresses on main turbine blading due to turbine shaft vibration.

- November 25, 1990 - 131.9 hours - shutdown

  Due to changes in turbine bearing vibration, power was reduced until a black and white control board condition was reached. A manual scram was then successfully initiated. An inspection of the No. 3 Low Pressure Turbine revealed damage to both the shroud and the blades. Turbine work included removal of the fourth-stage blading, ultrasonic testing of the turbine discs and shaft, weld repairs on the inner cylinder, and installation of pressure reducing plates.

December, 1990

- December 1-31, 1990 - 744 hours - shutdown

  Repairs continued from November on the No. 3 Low Pressure Turbine. Repairs to the turbine were completed and the reactor was restarted on January 1, 1991.

2.3 Fuel Performance

The plant was in its second cycle with no refueling outages during the year. The core currently contains 544 fuel bundles reloaded from Cycle-1 and 220 bundles of new fuel. The reactor was operated in a Control Cell Core mode with only one rod sequence for the entire year and there were no control rod sequence exchanges. However, power reductions were required for shallow rod pattern adjustments on five separate occasions and four shutdowns occurred during the year. In addition, the reactor was operated at approximately 85% of Rated Thermal Power beginning on November 8 due to turbine vibration problems.

The fuel produced 285 Effective Full Power Days (EFPD) of thermal energy during 1990. There were no indications of fuel pin leakage or other fuel failures during the year.

2.4 Shore Barrier Survey

A survey of the Fermi 2 shore barrier was completed as per Procedure 43.000.01, "Shore Barrier Surveillance", and as required by Technical Specification 4.7.3. 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 1990 that would have required additional surveillance.

2.5 Safety Relief Valve Challenges

There was one occurrence where seven (7) Safety Relief Valves were challenged during 1990, other than the planned actuations which occurred during the Safety Relief Valve Test Program. This occurrence was reported in LER 90-003 and 90-003-01, "Relay Failure Causes Loss of RPS Power and MSIV Closure".

2.6 Personnel Monitoring Exposure

Pursuant to 10CFR20.407(a)(2), a tabulation of the number of individuals monitored by range of measured exposure is shown in Table 2.6-1. Whole body exposures were determined using the Thermoluminescent Dosimeter (TLD) technique.

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). Radiation exposures were determined using the Direct Reading Dosimeter (DRD) technique and were adjusted by the total TLD to DRD dose ratio. The number of measured individuals (with radiation exposures >100 MRem) reported in Tables 2.6-1 and Table 2.6-2 are different due to the measurement techniques.

Table 2.6-1

Statistical Summary Report
of the Number of Individuals for Whom
Personnel Monitoring was Provided
For the Period
January 1, 1990, to December 31, 1990

NUMBER OF INDIVIDUALS IN EACH RANGE	ESTIMATED WHOLE BODY EXPOSURE RANGE (REMS)
1632	No Measurable Exposure
247	Exposure < .100
106	.100 to .249
58	.250 to .499
32	.500 to .749
18	.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
01/01/90 to 12/31/90

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	7	0	0	2.551	0.002	0.164
Operating Personnel	46	0	0	12.575	0.000	0.257
Health Physics Personnel	25	0	17	7.353	0.000	3.431
Supervisory Personnel	4	0	0	1.263	0.013	0.523
Engineering Personnel	9	0	0	2.355	0.192	0.458
Routine Maintenance						
Maintenance Personnel	10	0	0	4.835	0.000	0.698
Operating Personnel	2	0	0	0.392	0.000	0.000
Health Physics Personnel	0	0	0	0.022	0.000	0.042
Supervisory Personnel	0	0	0	0.064	0.000	0.000
Engineering Personnel	0	0	0	0.161	0.003	0.005
Inservice Inspection						
Maintenance Personnel	0	0	1	0.117	0.000	0.139
Operating Personnel	0	0	0	0.009	0.000	0.000
Health Physics Personnel	0	0	0	0.119	0.000	0.000
Supervisory Personnel	0	0	0	0.009	0.000	0.000
Engineering Personnel	0	0	0	0.017	0.000	0.005
Special Maintenance						
Maintenance Personnel	69	0	15	28.309	0.017	5.337
Operating Personnel	6	0	6	2.205	0.000	1.138
Health Physics Personnel	15	0	0	3.172	0.000	0.359
Supervisory Personnel	3	0	0	1.045	0.000	0.018
Engineering Personnel	4	0	0	1.429	0.136	0.000
Waste Processing						
Maintenance Personnel	0	0	0	0.000	0.000	0.009
Operating Personnel	0	0	1	0.035	0.000	0.460
Health Physics Personnel	3	0	3	0.888	0.000	0.959
Supervisory Personnel	0	0	0	0.070	0.000	0.000
Engineering Personnel	0	0	0	0.042	0.000	0.000
Refueling						
Maintenance Personnel	0	0	0	0.000	0.000	0.000
Operating Personnel	0	0	0	0.000	0.000	0.000
Health Physics Personnel	0	0	0	0.042	0.000	0.003
Supervisory Personnel	0	0	0	0.001	0.000	0.000
Engineering Personnel	0	0	0	0.000	0.000	0.009
Totals						
Maintenance Personnel	86	0	16	35.812	0.019	6.347
Operating Personnel	54	0	7	15.216	0.000	1.855
Health Physics Personnel	43	0	20	11.596	0.000	4.794
Supervisory Personnel	7	0	0	2.452	0.013	0.541
Engineering Personnel	13	0	0	4.004	0.331	0.477
Grand Totals	203	0	43	69.080	0.363	14.014

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 function for the life of the plant under anticipated operating conditions. The total value for 1990 is 0.95 days and the cumulative value is 25.45 days, 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 1990, 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, 1990 and December 31, 1990 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, 1990, to December 31, 1990

ECCS System	Forced Hours	Planned Hours
LPCI Division I	17.2	311.1
LPCI Division II	7.3	189.1
Core Spray Division I	33.9	46.5
Core Spray Division II	0.0	58.2
HPCI	171.5	268.9
ADS	157.6	41.4

DIVISION I LOW PRESSURE COOLANT INJECTION

ECCS System Outage: Division I Low Pressure Coolant Injection
Out of Service from 0440 2/6/90 to 0512 2/7/90
Duration: 24.5 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service to perform various corrective maintenance (CM) and preventive maintenance (PM) activities. Following completion of the activities and required surveillances, 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 0240 4/30/90 to 2120 5/5/90
Duration: 138.6 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service to perform weld repairs to various instrument taps and PM activities. Following completion of the activity and required surveillances, 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 2123 5/20/90 to 0602 5/23/90
Duration: 56.6 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service to perform weld repairs to the RHR pump "C" instrument taps. Following completion of the activity and required surveillances, 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 0250 8/21/90 to 2115 8/23/90
Duration: 66.4 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service to perform various PM activities and to repair the RHR Pump "A" seal cooler. Following completion of the activities and the required surveillances, 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 2250 8/23/90 to 1600 8/24/90
Duration: 17.2 hours Forced Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service to perform repairs to the E11-F007A flow switch. Following completion of the activity and required surveillances, 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 1815 12/20/90 to 1915 12/21/90
Duration: 25.0 hours Planned Outage

Outage Summary:

The Division I Low Pressure Coolant Injection System was removed from service for various PM activities. Following completion of the activities and the required surveillances, the Division I Low Pressure Coolant Injection System was returned to service.

DIVISION II LOW PRESSURE COOLANT INJECTION

ECCS System Outage: Division II Low Pressure Coolant Injection
Out of Service from 0336 1/23/90 to 1200 1/25/90
Duration: 56.4 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection System was removed from service to perform various corrective maintenance (CM) and preventive maintenance (PM) activities. Following completion of the activities and required surveillances, 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 0015 5/7/90 to 1125 5/11/90
Duration: 107.2 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection System was removed from service to perform weld repairs to instrument taps and PM activities. Following completion of the activities and required surveillances, 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 0500 9/4/90 to 0630 9/5/90
Duration: 25.5 hours Planned Outage

Outage Summary:

The Division II Low Pressure Coolant Injection System was removed from service to perform various CM and PM activities. Following completion of the activities and required surveillances, 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 2345 12/4/90 to 12/5/90
Duration: 7.3 hours Forced Outage

Outage Summary:

The Division II Low Pressure Coolant Injection System was declared inoperable to resolve a discrepancy with In Service Inspection (ISI) program acceptance criteria for the RHR pump "B" discharge check valve. Following resolution of the discrepancy, the Division II Low Pressure Coolant Injection System was declared operable.

DIVISION I CORE SPRAY

ECCS System Outage: Division I Core Spray
Out of Service from 0400 01/10/90 to 0115 01/11/90
Duration: 21.3 hours Planned Outage

Outage Summary:

The Division I Core Spray System was removed from service to perform various PM activities. Following completion of the activities and required surveillances, the Division I Core Spray System was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 2030 5/21/90 to 0431 5/22/90
Duration: 8.0 hours Forced Outage

Outage Summary:

The Division I Core Spray System was removed from service to repair/rework/recalibrate core spray leak detection instruments E21-N007A and E21-N007B. Following completion of the activity and required surveillances, the Division I Core Spray System was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 0330 5/29/90 to 2205 5/29/90
Duration: 18.6 hours Planned Outage

Outage Summary:

The Division I Core Spray System was removed from service to perform various PM activities. Following completion of the activities and required surveillances, the Division I Core Spray system was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 2054 10/12/90 to 1754 10/13/90
Duration: 21.0 hours Forced Outage

Outage Summary:

The Division I Core Spray System was removed from service to restore the core spray pump "C" upper bearing oil within specification. Following completion of the activity, the Division I Core Spray System was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 2100 12/17/90 to 0155 12/18/90
Duration: 4.9 hours Forced Outage

Outage Summary:

The Division I Core Spray System was removed from service to restore the core spray pump "C" upper bearing oil within specification. Following completion of the activity, the Division I Core Spray System was returned to service.

ECCS System Outage: Division I Core Spray
Out of Service from 2050 12/18/90 to 0330 12/19/90
Duration: 6.6 hours Planned Outage

Outage Summary:

The Division I Core Spray System was removed from service to perform various PM activities. Following completion of the activities and required surveillances, the Division I Core Spray System was returned to service.

DIVISION II CORE SPRAY

ECCS System Outage: Division II Core Spray
Out of Service from 0225 2/20/90 to 0550 2/21/90
Duration: 27.4 hours Planned Outage

Outage Summary:

The Division II Core Spray System was removed from service to perform various PM activities. Following completion of the activities and required surveillances, the Division II Core Spray System was returned to service.

ECCS System Outage: Division II Core Spray
Out of Service from 0600 8/7/90 to 1247 8/8/90
Duration: 30.8 hours Planned Outage

Outage Summary:

The Division II Core Spray System was removed from service to perform various CM and PM activities. Following completion of the activities and required surveillances, the Division II Core Spray System was returned to service.

HIGH PRESSURE COOLANT INJECTION

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0040 2/14/90 to 2206 2/17/90
Duration: 93.4 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to perform various CM and PM activities. Following completion of the activities and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0245 4/10/90 to 1745 4/13/90
Duration: 20.0 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to repair/rework/recalibrate E41-F011 thermal overloads. Duration time was until HPCI no longer required (<150 psig Rx Pressure). Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0401 4/17/90 to 1633 4/20/90
Duration: 84.5 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to perform various CM and PM activities. Following completion of the activities and the required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1254 7/6/90 to 0836 7/10/90
Duration: 68.7 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to repair/rework the E41-F003 valve stem. Duration time was until HPCI no longer required (<150 psig Rx Pressure). Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 0400 8/1/90 to 2300 8/3/90
Duration: 67.0 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to perform various CM and PM activities. Following completion of the activities and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1030 8/4/90 to 1230 8/5/90
Duration: 26.0 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to repair/rework a E41-F001 valve packing leak. Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1027 9/5/90 to 0040 9/7/90
Duration: 38.2 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to review problems with the Division 2 logic after a high steam flow isolation signal was received due to instrument noise. Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1700 9/8/90 to 1702 9/9/90
Duration: 24.0 hours Planned Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to modify the Division 2 logic to suppress steam flow signal noise. Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

ECCS System Outage: High Pressure Coolant Injection
Out of Service from 1957 10/16/90 to 1430 10/17/90
Duration: 18.6 hours Forced Outage

Outage Summary:

The High Pressure Coolant Injection System was removed from service to repair/rework HPCI steam line flow instrumentation after a failed channel check. Following completion of the activity and required surveillances, the High Pressure Coolant Injection System was returned to service.

AUTOMATIC DEPRESSURIZATION SYSTEM

ECCS System Outage: Automatic Depressurization System
Out of Service from 1730 1/11/90 **to** 1255 1/14/90
Duration: 67.4 hours Forced Outage

Outage Summary:

The Automatic Depressurization System was removed from service to repair/rework/recalibrate trip system "A" after replacement of the logic reset pushbutton. Following completion of the activity and required surveillances, the Automatic Depressurization System was returned to Service.

ECCS System Outage: Automatic Depressurization System
Out of Service from 2123 1/15/90 **to** 2315 1/18/90
Duration: 73.9 hours Forced Outage

Outage Summary:

The Automatic Depressurization System was removed from service to repair/rework/recalibrate trip system "B" after replacement of the logic reset pushbutton. Following completion of activity and required surveillances, the Automatic Depressurization System was returned to service.

ECCS System Outage: Automatic Depressurization System
Out of Service from 0015 5/7/90 **to** 1634 5/7/90
Duration: 16.3 hours Forced Outage

Outage Summary:

The Automatic Depressurization System was removed from service to repair leaks upstream of RHR pump discharge pressure transmitters E11-N055B and N056B. Following completion of the activity and required surveillances, the Automatic Depressurization System was returned to service.

ECCS System Outage: Automatic Depressurization System
Out of Service from 1805 8/11/90 **to** 1130 8/13/90
Duration: 41.4 hours Planned Outage

Outage Summary:

The Automatic Depressurization System was removed from service to allow performance of the 18 month channel calibration, 44.030.019, since it would exceed the two hour test exception. Following completion of the activity and required surveillances, the Automatic Depressurization System was returned to service.