

THE DETROIT EDISON COMPANY
Enrico Fermi Unit I Decommissioned

Atomic Power Plant

Docket No. 50-16

License No. DPR-9

Report for

Year beginning July 1, 1984 and ending June 30, 1985

EF-131

Prepared by: Wayne T. Maveal Date: 7-26-85
Wayne T. Maveal
Custodian Delegate

Approved by: R. S. Lenart for RSC Date: 8-1-85
Robert S. Lenart
Custodian

Approved by: Edward P. Griffing Date: 8/1/85
Edward P. Griffing
Chairman, Review Committee

100/R101/7.1
072585

8508090198 850630
PDR ADOCK 05000016
R PDR

IE24
1/1

TABLE OF CONTENTS

	<u>Page</u>
I. PREFACE.....	1
II. RETIREMENT STATUS.....	1
Primary System.....	1
Primary Sodium Storage.....	1
Administrative and Surveillance Procedures.....	1
III. HEALTH PHYSICS.....	1
Personnel Exposure.....	1
Environmental Surveys.....	2
IV. PERIODIC TEST ACTIVITIES.....	2
Weekly Test and Inspections.....	2
Water Intrusion Alarm.....	2
Sodium.....	2
Monthly Inspections.....	2
Controlled Area Inspections.....	2
Quarterly Test.....	2
Smear Surveys.....	2
Reactor Building.....	3
Fuel and Repair Building.....	3
Semi-Annual Tests.....	3
Water Intrusion Alarms.....	3
Raw Water Beta Activity.....	4
Sediment Gamma Activity.....	5
Carbon Dioxide Cover Gas Pressure.....	6

TABLE OF CONTENTS

Page 2

	<u>Page</u>
Annual Tests.....	6
Carbon Dioxide Cover Gas Pressure Relief Valve.....	6
V. REVIEW COMMITTEE.....	6
List of Members.....	6
Audit Subcommittee.....	6
VI. NOTEWORTHY ITEMS.....	6
Sodium Familiarization.....	6
MK 7-8-9-15 Liquid Waste Tank Levels.....	7
Input from NRC/Fermi 1 Annual Report.....	7

I PREFACE

This annual report is issued by the Detroit Edison Company in compliance with the provisions of the United States Nuclear Regulatory Commission, Provisional Operating License No. DPR-9, as amended, and is intended to provide a summary of the status and events at the decommissioned Enrico Fermi Atomic Power Plant during the past twelve (12) months.

II RETIREMENT STATUS

Primary System

The primary system, established during decommissioning, and consisting of the reactor vessel, primary sodium piping, primary shield tank, machinery dome, primary sodium service system and secondary sodium system extending out to welded pipe caps remains blanketed with carbon dioxide. This was done to provide a passivating atmosphere for any sodium that remains. A continuous supply of carbon dioxide maintains this cover gas at approximately 2 inches of water column pressure.

Primary Sodium Storage

During the period of October 29, 1984 to November 12, 1984 1344 drums of primary sodium were shipped to Argonne National Laboratory - West. A 1 to 5 psig Carbon Dioxide cover gas is maintained on the 3 primary Sodium Storage tanks.

Administrative and Surveillance Procedures

Sections VI and VII of the Detailed Inspection, Surveillance, Operating and Reporting Procedures were reviewed and updated as follows: Since the shipment of the 1344 drums of Primary Sodium to Argonne National Laboratories - West on November 12, 1984, the weekly surveillance procedure to inspect the Primary Sodium storage drums and the quarterly surveillance procedure to perform the smear survey of the Primary Sodium drum storage area has been discontinued. Section VII, Tables 3 through 5 were changed to reflect personnel changes at Enrico Fermi I.

III HEALTH PHYSICS

Personnel Exposure

There are seventy-one (71) thermoluminescent dosimeters processed monthly. Records indicate no exposures greater than 10 mREM.

Environmental Surveys

A total of twenty (20) environmental sample analysis of raw surface water, raw city water and sediment were reported during this period. Sample analysis covered the period from June, 1984 through June, 1985. The results of these samples were within the normal range experienced in the past. These values are given in the Periodic Test Activities, Section IV.

IV

Periodic Test Activities

Weekly Tests and Inspections

1. Water Intrusion Alarm - Continuity tests of the water intrusion alarm circuits for FARB, lower Reactor Building and biological shield wall areas, were conducted as required by Technical Specification. No discrepancies were encountered during this reporting period.
2. Sodium - On November 12, 1984 the last of 1344 drums of Primary Sodium were shipped to Argonne National Laboratories - West. The surveillance of inspecting the drums for leakage was discontinued.

Monthly Inspections

1. Controlled Area Inspections - Visual inspection of fence, gates, doors (locked), operation of sump pump and liquid level of MK 7-8-9 and 15 in the FARB were conducted within specified intervals. No discrepancies were found during this reporting period.

Quarterly Tests

1. Smear Surveys - The Reactor Building and FARB were checked for presence of gamma radiation and transferable contamination. The results of these smear surveys indicated no decontamination procedures were required.

Typical Smear Test Values in dpm/100cm²

Date	REACTOR BUILDING	
09/11/84	All Smears	< 1000
12/15/84	All Smears	< 1000
03/14/85	All Smears	< 1000
06/11/85	All Smears	< 1000
Date	FUEL AND REPAIR BUILDING (FARB)	
09/11/84	All Smears	< 1000
12/15/84	All Smears	< 1000
03/14/85	All Smears	< 1000
6/11/85	All Smears	< 1000

Semi-Annual Tests

Water Intrusion Alarms - Both of the required semi-annual functional tests of the water intrusion detectors in the FARB, lower Reactor Building and biological shield wall were conducted; one on 12/16/84 and the other on 5/19/85. No discrepancies were found.

Environmental Surveys

Raw Water Beta Activity
Sediment Gamma Activity

RAW WATER GAMMA ACTIVITY

<u>Date</u>	<u>Location</u>	<u>Lab Code</u>	<u>Gross Beta (pCi/l)</u>
9/22/84	So. Lagoon-Fermi (RW)	SPW-1356	< 2.9
9/22/84	Water Plant (LW)	-1358	< 2.9
9/22/84	Intake Canal (RCW)	-1359	< 2.9
9/22/84	Monroe-Intake (RCW)	-1360	< 2.9
9/22/84	Detroit City Water (RW)	-1361	< 2.9
9/25/84	Swan Creek (RCW)	-1357	< 2.9
9/25/84	Reactor Channel	-1362	< 2.9

Less than (L.T.) values are based on 4.66 sigma error for background sample.

4/11/85	So. Lagoon	SPW-1598	3.1 + 1.4
4/11/85	Fermi 1 Water Plant	-1599	2.2 + 1.3
4/11/85	Monroe Intake	-1600	2.6 + 1.3
4/11/85	Detroit Water Intake	-1601	3.0 + 1.3
4/11/85	S. Creek Ind. (1500)	-1602	4.1 + 1.4
4/11/85	S. Creek Ind. (1530)	-1603	3.5 + 1.4
4/11/85	EF-2 Intake	-1604	2.7 + 1.3

The error given is the probable counting error at 95% confidence level.

(RW) - Raw Water

(LW) - Lake Water

(RCW) - Raw City Water

SEDIMENT GAMMA ACTIVITY

Sample Description and Activity (pCi/kg dry weight)

Sample Description	South Lagoon	Reactor Channel	Swan Creek
Date Collected	9-22-84	9-25-84	9-25-84
Lab Code	SPS-1365	SPS-1364	SPS-1363
K-40	9740 + 636	13600 + 827	6660 + 502
Mn-54	< 31	< 45	< 24
Co-58	< 42	< 56	< 36
Co-60	< 31	< 43	< 26
Zn-65	< 112	< 138	< 84
Zr-95	< 80	< 102	< 62
Nb-95	< 60	< 79	< 46
Cs-134	< 41	< 59	< 30
Cs-137	< 28	166 + 33	< 23

Sample Description	South Lagoon	S. Creek	S. Creek
Lab Code	SPW-1597	SPW-1595	SPW-1596
Date Collected	4-5-85 at 1110	4-8-85 at 1515	4-8-85 at 1545
Units (pCi/kg)			
K-40	13100 + 560	9300 + 495	14900 + 583
Mn-54	< 27.2	< 24.6	< 33.5
Co-58	< 29.5	< 25.5	< 34.4
Co-60	< 26.5	< 24.0	< 34.7
Zn-65	< 94.9	< 71.8	< 118.0
Nb-95	< 34.5	< 29.8	< 45.0
Cs-134	< 36.8	< 27.0	< 46.6
Cs-137	< 25.8	< 21.1	212 + 26.7

The error given is the probable counting error at 95% confidence level. Less the (L.T.) values are based on 4.66 sigma counting error for background sample.

Carbon Dioxide Cover Gas Pressure

The semi-annual test of the Hi and Lo Pressure alarm settings were successfully completed on 5/15/84 and 11/27/84 and 5/13/85. Setpoints were within the limits established and no adjustments were required.

Annual Tests

Carbon Dioxide Cover Gas Pressure Relief Valve

The annual test of the carbon dioxide cover gas pressure relief valve setting was successfully completed on 6/5/85. The relief actuation occurred at 4.6 PSIG.

V

Review Committee

Members of the Review Committee

E. P. Griffing - Chairman
R. S. Lenart - Custodian
W. D. Gilbert
W. T. Maveal
J. E. Meyers
M. A. Nelson
E. H. Newton
E. M. Page
R. G. Rateick
N. M. Ewbank
J. P. Bobba

The committee met on July 23, 1985. Formal minutes of these meetings are on file.

Audit Subcommittee

Present members of the Audit Subcommittee are: Mr. M. A. Nelson and Mr. E. M. Page. The subcommittee met at the facility on December 20, 1984 and June 9, 1985 for inspection of the facility and review of records and procedures. Memorandums containing their findings are on file. The Review Committee reviewed the findings of the sub Committee Audit, and the Committee meeting minutes are on file.

VI

Noteworthy Items

Sodium Familiarization - Frenchtown Fire Department

Prior to the shipment of the 1344 drums of Primary Sodium to Argonne National Laboratories - West a sodium familiarization class was conducted with the Frenchtown Fire Department on August 18, 1984.

Following is an outline of the activities:

- o Classroom presentation on the characteristics of sodium, fighting sodium fires and operational precautions, and radiological concerns.

- o Demonstration of the Sodium/water reaction, and use of Class D fire extinguishers.
- o Toured EF-1 site and explained the methods used to load the drummed sodium on the trucks and the area the loading would take place.

MK 7-8-9-15 Liquid Waste Tank Levels

The ground area west of the Fuel and Repair Building was covered with concrete and the old laundry pit near the Health Physics Building slab has been filled with cement. Since this has been completed in late August, 1984, there has been no increase in the MK 7-8-9 and 15 tank levels.

Input from NRC/Fermi 1 Annual Report - Sodium Shipment

Authorization to ship the Low Specific Activity sodium drums to Argonne National Laboratories - West (ANL-W Site, Scoville, Idaho) was received October 11, 1984 from George C. Grisaffe, Assistant Director for Administration and Contract Management of the Clinch River Breeder Reactor Project. Tri-State Motor Transit Company was selected to transport the drums from Fermi 1 to the ANL-W new storage building which was scheduled for completion on November 2, 1984. Instructions for reporting each shipment to the Michigan State Police were prepared on October 15, 1984. Organization of Detroit Edison emergency response teams was initiated on October 19, 1984 under Nuclear Operations Emergency Action Order 1-84, "Response Activities for Sodium (LSA) Shipment Accident." The first shipment left Fermi 1 on October 29, 1984. Seventeen trucks were used to transport 1344 drums. The last truck was received at ANL-W on November 12, 1984. All records of the sodium handling operations were sent to the Detroit Edison Company General Offices vault for 5 year storage.

Reactor Building

On June 22, 1985 the smoke detectors in the Reactor Building were checked. All 4 cable tray detectors were operational.

Fermi I License extension

The current Fermi I license expires on June 30, 1985. In a letter dated May 17, 1985 Detroit Edison has requested that the license be extended 40 years.

Detroit
Edison

Wayne H. Jens
Vice President
Nuclear Operations

Fermi-2
6400 North Dixie Highway
Newport, Michigan 48166
(313) 586-4150



Nuclear
Operations

August 1, 1985
NP-85-838

Director of Nuclear Reactor Regulation
Attention: Mr. John A. Zwolinski, Chief
Operating Reactors Branch No. 5
Division of Licensing
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Zwolinski:

Reference: Fermi I
NRC Docket No. 50-16
NRC License No. DPR-9

Subject: Enrico Fermi I Decommissioned
Atomic Power Plant Annual Report

Dear Mr. Zwolinski:

Pursuant to Section I.8 (Reporting Requirements) of the Technical Specifications for Amendment 8 to Provisional Operating License No. DPR-9, enclosed are ten copies of Report EF-131 for the year ending June 30, 1985 for the decommissioned Enrico Fermi Unit I Atomic Power Plant.

Yours very truly,

Robert S. Lenart
Custodian
Enrico Fermi I
Decommissioned Plant

cc: Mr. P. M. Byron
Mr. P. B. Erickson
Mr. J. Eckert (Monroe County OCP)
Mr. D. Hahn (State Health Department)
USNRC Document Control Desk
Washington, D.C. 20555

IE24
11

Mr. John A. Zwolinski
August 1, 1985
NE-85-1016
Page 2

bcc: F. E. Agosti
J. P. Bobba
L. P. Bregni
J. E. Conen
O. K. Earle
N. M. Ewbank
J. H. Flynn
W. D. Gilbert
E. P. Griffing
W. H. Jens
R. S. Lenart
W. T. Maveal
J. E. Meyers
M. A. Nelson
E. H. Newton
S. H. Noetzel
G. R. Overbeck
E. M. Page
A. Papadopoulos
T. D. Phillips
T. Randazzo
R. G. Rateick
G. M. Trahey
A. E. Wegele

Approval Control
O. K. Earle (Bethesda Office)
Secretary's Office (2412 WCB)
NRR Chron File
NOC Satellite Service Center