

April 16, 2007

Mr. Donald K. Cobb  
Assistant Vice President  
Nuclear Generation  
The Detroit Edison Company  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: NRC INSPECTION REPORT 050-00016/07-08 (DNMS)  
ENRICO FERMI UNIT 1

Dear Mr. Cobb:

On April 5, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Enrico Fermi Unit 1 facility. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements in the areas of facility management and control, and radiological safety. At the conclusion of the inspection on April 5, 2007, the NRC inspector discussed the findings with members of your staff.

The inspection consisted of an examination of activities at the facility as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, field observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). The NRC's document system is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

D. Cobb

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We will gladly discuss any questions you have concerning this inspection.

Sincerely,

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Jamnes L. Cameron, Chief  
Decommissioning Branch

Docket No. 050-00016  
License No. DPR-9

Enclosure:  
Inspection Report 050-00016/07-08(DNMS)

cc w/encl: Compliance Supervisor  
G. White, Michigan Public Service Commission  
Planning Manager, Emergency Management Division  
MI Department of State Police  
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D. Pettinari, Legal Department  
Michigan Department of Environmental Quality  
Waste and Hazardous Materials Division  
M. Yudasz, Jr., Director, Monroe County  
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Supervisor - Electric Operators  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 050-00016  
License No. DPR-9

Report No. 050-00016/07-008(DNMS)

Licensee: Detroit Edison Company

Facility: Enrico Fermi Unit 1

Location: 6400 North Dixie Highway  
Newport, MI 48166

Dates: April 4 through 5, 2007

Inspector: Peter J. Lee, Ph.D., CHP, Health Physicist

Approved by: Jamnes L. Cameron, Chief  
Decommissioning Branch

Enclosure

## EXECUTIVE SUMMARY

### Enrico Fermi Unit 1 NRC Inspection Report 050-00016/07-08(DNMS)

This routine decommissioning inspection included reviews of facility management and control, and radiological safety.

#### Facility Management and Control

- The inspector determined that the licensee maintained adequate training for the contract workers to continue the decommissioning process and the Review Committee conducted its activities in accordance with the requirements outlined in the Safety Administrative Controls as required by the Technical Specification F.4. (Section 1.1)
- The inspector concluded that the conditions of the facility and equipment were adequate and capable of supporting sodium removal activities. (Section 1.2)
- The inspector determined that the licensee adequately implemented the audits of radiation protection and off-site laboratory programs in accordance with its Quality Assurance Program. (Section 1.3)

#### Radiological Safety

- The inspector determined that the licensee continued to be effective in preventing the spread of contamination and in maintaining dose to workers well below the regulatory limits. (Section 2.1)
- The inspector verified that the licensee maintained effluent releases well below the 10 CFR Part 20 release limits. The inspector determined that no detectable licensed materials were found in the ground water around the perimeter of the plant. (Section 2.2)
- The inspector determined that the licensee had complied with NRC and Department of Transportation regulations for shipments of radioactive waste. (Section 2.3)

## Report Details<sup>1</sup>

### Summary of Plant Activities

During the inspection period, the licensee was preparing for removal and disassembly of the offset handling mechanism plug and rotating shielding plug from the reactor.

#### **1.0 Facility Management and Control**

##### 1.1 Organization, Management and Cost Controls (36801)

###### a. Inspection Scope

The inspector interviewed licensee personnel and reviewed records of the required training for the contractor workers hired recently. The inspector attended the licensee's Review Committee meeting to assess that the review and approval of the documents were conducted in accordance with the administrative controls requirement of Technical Specification F.4.

###### b. Observations and Findings

The licensee conducted training for the contractor workers in accordance with the provisions of the licensee's training program. The training included radiation protection, sodium handling safety, asbestos awareness, and confined space safety.

During the inspection, the licensee Review Committee conducted the meeting to review and approve the change requests, significant Condition Assessment Resolution Documents and outstanding action items. During these meetings, the inspector observed the Chairman and members of the Review Committee effectively working together on resolution of any review committee comments on presented material, approval of documents, and identification of action items.

###### c. Conclusions

The inspector determined that the licensee maintained adequate training for the contract workers to continue the decommissioning process and the Review Committee conducted its activities in accordance with the requirements outlined in the Safety Administrative Controls as required by the Technical Specification F.4.

##### 1.2 Decommissioning Performance and Status Review at Permanently Shut Down Reactors

###### a. Inspection Scope (71801)

The inspector toured the Reactor Building and the Sodium Building Primary Cold Trap Room to assess the working conditions of the sodium removal process.

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<sup>1</sup>A list of acronyms used and all documents reviewed in these "Details" are provided at the end of the report.

b. Observations and Findings

The contract workers involved in sodium removal operations wore appropriate protective equipment and followed established procedures. The licensee maintained the work place with adequate shielding, personnel barriers, and enclosures with a HEPA exhaust system installed to minimize the doses received by the workers. All radiological areas were adequately marked and posted.

c. Conclusions

The inspector concluded that the conditions of the facility and equipment were adequate and capable of supporting sodium removal activities.

1.3 Self-Assessment, Auditing, and Corrective Action (40801)

a. Inspection Scope

The inspector reviewed the licensee's audit of its radiation protection program (Audit 06-002) conducted from November 21 through November 30, 2006, and the Nuclear Procurement Issues Committee's audit of the off-site laboratory (Audit SA06-014) conducted from October 23 through 26, 2006. Selected corrective action work orders associated with identified deficiencies were also reviewed.

b. Observations and Findings

The audit of Audit 06-002 was appropriately focused in both scope and level of detail, and the licensee initiated appropriate corrective actions to resolve the audit findings. The licensee has the Nuclear Procurement Issues Committee conduct the off-site laboratory audit every three years. The off-site laboratory performed Part 61 and environmental sample analyses for the licensee. The audit of Audit SA06-014 was appropriately focused in both scope and level of detail and the findings identified were programmatic in nature and had no impact on the quality of products.

c. Conclusions

The inspector determined that the licensee adequately implemented the audits of radiation protection and off-site laboratory programs in accordance with its Quality Assurance Program.

**2.0 Radiological Safety**

2.1 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspector reviewed the results of external exposure, air sampling, direct radiation surveys, and contamination surveys performed from September 2006 to March 2007, especially during the removal and cutting of 10 control rod extensions, to determine whether the licensee adequately controlled doses to workers. The inspector reviewed the radiation work permits (RWP) and ALARA reviews for the removal and disassembly

of control rod extension, off-set handling mechanism plug, and rotating shielding plug to evaluate the potential radiation exposure to the workers.

b. Observations and Findings

The ALARA review provided the administrative controls to minimize or avoid unnecessary dose to the workers. The engineering controls such as enclosures with additional HEPA ventilation and shielding, were effectively controlling the worker's exposure and the spread of contamination.

The results of air sampling did not indicate any potential intake of radioactive material by the workers. The results of personnel monitoring indicated all exposures were less than 10 percent of any applicable occupational limit in 10 CFR Part 20.

The results of contamination surveys did not indicate any spread of contamination during processing sodium removal. The direct radiation surveys from the work areas did not indicate any significant potential exposure for the workers.

c. Conclusions

The inspector determined that the licensee continued to be effective in preventing the spread of contamination and in maintaining dose to workers well below the regulatory limits.

2.2 Radioactive Waste Treatment, Effluent and Environmental Monitoring (84750)

a. Inspection Scope

The inspector reviewed the analytical data for gaseous effluent releases for particulates and tritium from September 2006 to March 2007 to verify that the licensee met 10 CFR Part 20 effluent release limits. The inspector also reviewed on-site and off-site laboratories analytical data of groundwater samples taken during 2006 from 14 monitoring wells around the perimeter of the plant.

b. Observations and Findings

The air sampling at the effluence release points did not indicate any positive result of particulates. The highest tritium concentration was about  $1.5 \times 10^{-10}$  microcuries per milliliter ( $\mu\text{Ci/ml}$ ), compared to the limit in 10 CFR Part 20, Appendix B of  $1.0 \times 10^{-7}$   $\mu\text{Ci/ml}$ .

The licensee collected and analyzed the ground water quarterly on-site during 2006. The licensee also separately collected the ground water samples and had an off-site laboratory conduct the analyses. The ground water sampling from both on-site and off-site laboratories did not indicate any positive results for licensed materials.

c. Conclusions

The inspector verified that the licensee maintained effluent releases well below the 10 CFR Part 20 release limits. The inspector determined that no detectable licensed materials were found in the ground water around the perimeter of the plant.

2.3 Solid Radioactive Waste Management and Transportation of Radioactive Materials (86750)

a. Inspection Scope

The inspector reviewed radioactive waste shipping documents and conducted interviews of the responsible individual to ensure compliance with NRC and U.S. Department of Transportation (DOT) regulations.

b. Observations and Findings

On February 28, 2007, the licensee made one LSA-II shipment of DAW and metal. The licensee's shipping manifest showed that personnel packaged, labeled, and marked each shipping container according to the DOT and 10 CFR Part 71 transportation requirements. The licensee verified that the results of radiation and removable contamination levels were within applicable limits. The waste manifest included all required information.

c. Conclusions

The inspector determined that the licensee had complied with NRC and Department of Transportation regulations for shipments of radioactive waste.

**3.0 Exit Meeting**

The inspector presented the inspection results to members of the licensee's staff at the conclusion of the inspection on April 5, 2007. The licensee did not identify any of the documents or processes reviewed by the inspector as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **PARTIAL LIST OF PERSONS CONTACTED**

S. Stasek, Director, Nuclear Project  
L. Goodman, Manager, Fermi 1 (Custodian)  
D. Crain, Radiation Protection Manager, Fermi 1  
W. Lipton, Principal Engineer, Fermi 2  
D. Breiding, Fermi 1 Project Coordinator  
D. Swindle, Sodium Project Manager  
C. Aldridge-Nunn, Office Administration  
L. Davis, Office Specialist

All of the above were in attendance at the exit meeting on April 5, 2007.

### **LIST OF PROCEDURES USED**

IP 86750: Solid Radioactive Waste Management and Transportation of Radioactive Materials  
IP 83750: Occupational Radiation Exposure  
IP 84750: Radioactive Waste Treatment and Effluent and Environmental Monitoring  
IP 71801: Decommissioning Performance and Status Review at Permanently Shut Down Reactors  
IP 40801 Self-Assessment, Auditing, and Corrective Action

### **LIST OF ACRONYMS USED**

ADAMS Agency Document and Management System  
ALARA As low as is reasonably achievable  
CFR Code of Federal Regulations  
DAW Dry Active Waste  
DNMS Division of Nuclear Materials Safety  
DOT Department of Transportation  
LSA Low Specific Activity  
NRC Nuclear Regulatory Commission

### **LICENSEE DOCUMENTS REVIEWED**

Licensee documents reviewed and utilized during the course of this inspection are specifically identified in the "Report Details" above.

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

None