

October 5, 2009

Mr. Joseph Plona  
Site Vice President  
Nuclear Generation  
The Detroit Edison Company  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: NRC INSPECTION REPORT 050-00016/09-08(DNMS) - ENRICO  
FERMI UNIT 1

Dear Mr. Plona:

On September 16, 2009, 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. At the conclusion of the inspection on September 16, 2009, 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 included facility management and control, and radiological safety. 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 the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html>.

Enclosure

J. Plona

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

Sincerely,

***/RA by George M. McCann acting for/***

Christine A. Lipa, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch

Docket No. 050-00016

License No. DPR-9

Enclosure:

Inspection Report 050-00016/09-08(DNMS)

cc w/encl: L. Goodman, Manager, Fermi 1  
W. Colonello, Director, Nuclear Support  
R. Johnson, Manager, Nuclear Licensing  
D. Pettinari, Legal Department  
Michigan Department of Environmental Quality  
Waste and Hazardous Materials Division  
M. Yudasz, Jr., Director, Monroe County  
Emergency Management Division  
T. Strong, Chief, State Liaison Officer, State of Michigan  
Supervisor - Electric Operators  
Wayne County Emergency Management Division

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 050-00016

License No.: DPR-9

Report No.: 050-00016/09-08(DNMS)

Licensee: Detroit Edison Company

Facility: Enrico Fermi Unit 1

Location: 6400 North Dixie Highway  
Newport, MI 48166

Inspection Dates: September 15 and 16, 2009

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

Approved by: Christine A. Lipa, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch  
Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

### **Enrico Fermi Unit 1 NRC Inspection Report 050-00016/09-08(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's As-Low-As-Reasonably-Achievable (ALARA) Committee conducted its activities to ensure the ALARA goals are met. (Section 1.1)
- The inspector concluded that the conditions of the facility and equipment were adequate and capable of supporting the decommissioning activities. (Section 1.2)

#### Radiological Safety

- The inspector determined that the licensee continued to be effective 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. (Section 2.2)

## Report Details

During the inspection period, the licensee was continuing decommissioning activities and preparing for the reactor vessel removal project.

### **1 Facility Management and Control**

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

##### **a. Inspection Scope**

The inspector attended the licensee's As-Low-As-Reasonably-Achievable (ALARA) Committee meeting to assess that the radiation doses to the workers is kept as low as reasonably achievable.

##### **b. Observations and Findings**

During the inspection, the licensee's ALARA Committee conducted a meeting to discuss the ALARA plan for the primary shield tank (PST) removal. During the meeting, the inspector observed the Chairman and members of the Committee effectively working together to ensure that the radiation doses to the workers are kept as low as reasonably achievable.

##### **c. Conclusions**

The inspector determined that the licensee's ALARA Committee conducted its activities to ensure the ALARA goals are met.

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

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

The inspector toured the plant to assess the working conditions of the decommissioning activities.

##### **b. Observations and Findings**

During the inspection, contract workers involved in removal of graphite blocks from the PST, and in PST cutting wore appropriate protective equipment and followed established procedures. The licensee maintained the work location with adequate shielding, personnel barriers, and high efficiency particulate air (HEPA) filter exhaust systems, all to minimize worker doses. 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 the decommissioning activities.

## 2 Radiological Safety

### 2.1 Occupational Radiation Exposure (83750)

#### a. Inspection Scope

The inspector reviewed the work request and ALARA reviews for the removal of the PST to evaluate the effectiveness of licensee controls to minimize the potential radiation exposure to the workers.

#### b. Observations and Findings

Prior to PST removal, the licensee conducted the dose rate survey inside the reactor vessel and provided the survey data to the licensee contractor to calculate the dose rates in the PST pit and assess the total dose for the PST removal. The total estimated dose is about 18,000 millirem. Due to the additional engineering controls such as HEPA vacuum to control contamination and lead blankets for shielding, the actual dose will be much lower. The licensee plans to keep dose of each worker below the administrative limit of 1000 millirem.

The dose rates in the PST pit were continuously monitored during work evolutions to assure the dose rates were within expected criteria. If the dose rates are not within expected criteria then the job will be stopped and another dose assessment and ALARA evaluation will be made.

During the inspection, the progress of PST removal was approaching the reactor transition deck. The dose rates in the work area of the PST pit were within the expected criteria. The air sampling results did not indicate internal radiation hazards for the workers.

#### c. Conclusions

The inspector determined that the licensee continued to be effective 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 of gaseous effluent releases for particulates and tritium from April 2009 to September 2009 to verify that the licensee met 10 CFR Part 20 effluent release limits.

#### b. Observations and Findings

The licensee evaporated the liquid waste to reduce the volume of the waste for the disposal. Air sampling at the effluence release points did not indicate any positive results from particulates or tritium during the evaporation of the liquid waste.

c. Conclusions

The inspector verified that the licensee maintained effluent releases well below the 10 CFR Part 20 release limits.

**3 Exit Meeting**

The inspector presented the inspection results to members of the licensee's staff at the conclusion of the inspection on September 16, 2009. 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**

- \* L. Goodman, Manager, Fermi 1 (Custodian)
- \* K. Lindsey, Radiation Protection Supervisor
- \* D. Breiding, Reactor Project Manager  
D. Swindle, Sodium Project Manager
- \* C. Aldridge-Nunn, Office Administration
- \* L. Davis, Office Specialist

\* Present at the September 16, 2009, exit meeting.

### **LIST OF PROCEDURES USED**

- IP 36801: Organization, Management and Cost Controls
- 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

### **LIST OF ACRONYMS USED**

- ADAMS Agency Document and Management System
- ALARA As-Low-As-Reasonably-Achievable
- CFR Code of Federal Regulations
- DNMS Division of Nuclear Materials Safety
- HEPA High Efficiency Particulate Air
- NRC Nuclear Regulatory Commission
- PST Primary Shield Tank

### **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



J. Plona

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

Sincerely,

**/RA by George M. McCann acting for/**  
Christine A. Lipa, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch

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

Enclosure:  
Inspection Report 050-00016/09-008(DNMS)

cc w/encl: W. Colonello, Director, Nuclear Support  
R. Johnson, Manager, Nuclear Licensing  
D. Pettinari, Legal Department  
Michigan Department of Environmental Quality  
Waste and Hazardous Materials Division  
M. Yudasz, Jr., Director, Monroe County  
Emergency Management Division  
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Supervisor - Electric Operators  
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