

October 21, 2005

Mr. William O'Connor, Jr.
Vice President
Nuclear Generation
The Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: NRC INSPECTION REPORT 050-00016/05-015(DNMS) -
ENRICO FERMI UNIT 1

Dear Mr. O'Connor:

On September 21, 2005, 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 September 21, 2005, 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>.

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

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Decommissioning Branch

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

Enclosure: Inspection Report 050-00016/05-015(DNMS)

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REGION III

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

Report No. 050-00016/05-015(DNMS)

Licensee: Detroit Edison Company

Facility: Enrico Fermi Unit 1

Location: 6400 North Dixie Highway
Newport, MI 48166

Dates: July 19 through 20, 2005
September 20 through 21, 2005

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

Approved by: Jamnes L. Cameron, Chief
Decommissioning Branch

EXECUTIVE SUMMARY

Enrico Fermi Unit 1 NRC Inspection Report 050-00016/05-015(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 was effective in identifying and implementing appropriate corrective actions for two incidents involving fires. (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)

Radiological Safety

- The inspector determined that the licensee continued to be effective in preventing the spread of contamination. (Section 2.1)
- The inspector determined that the fire incidents had not breached the primary loop sodium processing system, and the licensee adequately controlled the release of gaseous effluents. (Section 2.2)

Report Details¹

Summary of Plant Activities

During the inspection period, the licensee was preparing for sodium removal from the primary sodium loops.

1.0 Facility Management and Control

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

a. Inspection Scope

The inspector reviewed the licensee's Condition Assessment Resolution Document (CARD) No. 05-24050, which documented a scaffold fire in the lower level Reactor Building during sodium removal process, and CARD No. 05-24741, which documented a fire in the Inert Gas Room of the Sodium Building while plasma cutting inert gas tanks for disposal.

b. Observations and Findings

The primary sodium loops are located in the lower level Reactor Building. Each loop consists of an intermediate heat exchanger (IHX), primary pump and piping. Loop No. 1 had been disconnected from the reactor vessel and setup for processing of its residual sodium had been completed. On July 6, 2005, at approximately 3:45 a.m., heat up of IHX in Loop No. 1 and selected piping commenced using electric heaters. The IHX was heated to melt the sodium residues from the interior of the tube bundle prior to initiating steam processing.

At approximately 10:30 p.m., a small fire was observed on the scaffold adjacent to the IHX 30 inch discharge pipe. The Fermi 2 fire brigade was called. The brigade extinguished the fire with a hand-held extinguisher. Fire retardant herculite and oil cloth had been installed on top of the 30-inch pipe and scaffold wood planking as part of a contamination control and protective boundary during setup activities. When the temperature of the pipe exceeded 500 degrees Fahrenheit, some of the herculite and oil cloth burned, as well as some adjacent scaffold wood planks. The fire brigade entered the area and suppressed a small re-flash. Processing evolutions were halted, the heaters were turned off and the system was purged and cooled down. To prevent future fires, the herculite, oil cloth, and wood planking will be removed prior to the heat up.

On August 15, 2005, while dismantling an inert gas tank in the Inert Gas Room of the Sodium Building, a small fire was discovered at approximately 3:35 p.m. on the opposite side of the room. A plasma cutter was being used to perform the cutting operation. The fire was extinguished by the fire watch of the contractor performing the work using the fire extinguisher. The sparks generated during the cutting caused the fire. To prevent future fires, spark control techniques will be used and all combustibles within the work area will be protected.

Note: 1. A list of acronyms used and all documents reviewed in these "Details" are provided at the end of the report.

The licensee assigned appropriate significance levels to both fires described in Section 1.1, which dictated the degree of follow-up actions required. Root cause analyses were completed, which were used to determine the scope of the corrective actions. The inspector verified that the licensee had implemented the corrective actions to prevent similar future incidents.

c. Conclusions

The inspector determined that the licensee effectively used its CARD program to identify and implement appropriate corrective actions in response to the two fires that occurred during sodium removal activities.

1.2 Decommissioning Performance and Status Review at Permanently Shut Down Reactors

a. Inspection Scope (71801)

The inspector toured the Reactor Building and the Inert Gas Room of the Sodium Building to assess the working conditions of the sodium removal process, especially in the area of fire protection.

b. Observations and Findings

The licensee had implemented corrective actions in accordance with the CARDS for processing the sodium in the primary sodium loops, and cutting the inert gas tanks. The licensee had removed the herculite, oil cloth and wood planking from the lower level of the Reactor Building, which included the primary sodium loop processing area. In the Inert Gas Room, the licensee applied the spark control techniques to the cutting of inert gas tanks, and protected all combustibles within the work area.

During the inspection, the primary loop sodium removal activities were suspended due to the excessive scrubber heat up from the carry-over steam. The licensee performed the design changes to maximize the heat loss in the sodium removal system before reaching the scrubber. In the area, welding and cutting were necessary to implement the design changes. The licensee had implemented the corrective actions proposed in the CARD to prevent similar fires.

c. Conclusions

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

2.0 Radiological Safety

2.1 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspector reviewed the results of air sampling, direct radiation surveys, and contamination surveys performed after the fire incidents in the lower level of the Reactor Building and the Inert Gas Room of the Sodium Building. The inspector also reviewed the results of routine quarterly direct radiation survey and contamination surveys

performed in the Reactor Building, Fuel and Repair Building from June 2005 to September 2005.

b. Observations and Findings

The air sampling completed after the fire incidents in the work areas did not indicate any positive results, and contamination surveys did not indicate any spread of the contamination in either the lower level of the Reactor Building or the Inert Gas Room of the Sodium Building.

The results of the routine quarterly survey in the Reactor Building, Fuel and Repair Building had not identified any significant removal contamination.

c. Conclusions

The inspector determined that the licensee continued to be effective in preventing the spread of contamination.

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 for the period of June 2005 to September 2005 to assess the potential release of licensed materials due to the fire incidents.

b. Observations and Findings

The results of the licensee's gaseous effluent monitoring performed after the two fires had not identified the release of any licensed materials in excess of those identified as a result of normal operations.

c. Conclusions

The inspector determined that the fire incidents had not breached the primary loop sodium processing system, and the licensee adequately controlled the release of gaseous effluents.

3.0 Exit Meeting

The inspector presented the inspection results to members of the licensee's staff at the conclusion of the inspection on September 21, 2005. The licensee did not identify any of the documents or processes reviewed by the inspector as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

W. Colonnello, Director, Nuclear Support
L. Goodman, Manager, Fermi 1 (Custodian)
J. Couillard, Radiological Engineer, 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 September 21, 2005.

LIST OF PROCEDURES USED

IP 40801: Self-Assessment, Auditing, and Corrective Actions at Permanently Shutdown Reactors
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
CARD Condition Assessment Resolution Document
CFR Code of Federal Regulations
DNMS Division of Nuclear Materials Safety
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