

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/82-15(DETP)

Docket No. 50-341

License No. CPPR-87

Licensee: Detroit Edison Company  
2000 Secord Avenue  
Detroit, MI 48226

Facility Name: Enrico Fermi Atomic Power Plant, Unit 2

Inspection At: Fermi Site, Monroe, MI

Inspection Conducted: September 21-24, 1982

*L. J. Hueter for*  
Inspector: L. J. Hueter

10/21/82

*L. R. Greger*  
Approved By: L. R. Greger, Chief  
Facilities Radiation Protection  
Section

10/21/82

Inspection Summary

Inspection on September 21-24, 1982 (Report No. 50-341/82-15(DETP))

Areas Inspected: Routine, unannounced inspection of the preoperational radiation protection program for Unit 2. The inspection included: organization and staffing; training; radiation protection procedures; facilities, instruments, and equipment; control of licensed radioactive material; and determination of preliminary status of certain NUREG-0737 items. The inspection involved 35 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

## DETAILS

### 1. Persons Contacted

\*T. Alessi, Director, Project QA  
\*B. Cummings, Radwaste Engineer  
\*R. Eberhardt, General Supervisor, Chemistry  
\*W. Gilbert, Radiation Protection and Chemical Engineer  
\*E. Griffing, Superintendent, Nuclear Production  
\*R. Hite, Senior Radiological Engineer  
\*W. Jens, Vice President, Nuclear Operations  
P. Lavelly, General Supervisor, Health Physics  
\*R. Lenart, Assistant Superintendent, Nuclear Production  
\*W. Lipton, Senior Engineer, Health Physics  
\*E. Newton, Supervisor, Operational Assurance  
\*J. Sutka, General Supervisor, Nuclear Material  
\*G. Trahey, Assistant Director, Project QA  
\*A. Wegele, Licensing Engineer, Nuclear Production  
\*D. Wells, Manager, QA

\*Denotes those present at the exit meeting.

### 2. General

This inspection of the preoperational radiation protection program for Unit 2 began about 9:00 a.m. on September 21, 1982. It included tours of various levels of the turbine building, radwaste building, and the service building. Special emphasis was placed on gaseous effluent pathways and also on liquid and solid processing/waste handling systems for layout, completion status, and health physics considerations of the installed facilities. Initial status of certain NUREG-0737 items was reviewed.

### 3. Organization and Staffing

During a previous inspection,<sup>1</sup> it was noted that staffing appeared sufficient to meet the SER commitment before fuel loading for both the chemistry and radiation protection groups and, further, that the time span before fuel load should permit timely completion of required training. Fuel load has been delayed and is currently rescheduled for July 1983. This delay should provide greater assurance that training will be completed.

Although four individuals in the radiation protection group have terminated employment with the licensee since the previous inspection, four individuals have been added, one of which is on temporary assignment from the licensee's corporate office. The net effect has been an upgrading of personnel in that two of the four added have health physics related degrees and a third is an experienced instrument specialist. A total of 20 people are in the radiation protection group.

<sup>1</sup> Inspection Report No. 80-341/81-05.

No individuals have terminated from the chemistry group during this period while one regular and one temporary employee have been added. The former has had previous nuclear navy experience while the latter is a chemical engineer on an approximate ten month assignment from the licensee's corporate office.

During the previous inspection, the licensee stated that efforts to obtain staffing for the radwaste group were being expedited. That effort has produced no apparent results to date as the staff still consists of one individual, an engineer, who previously worked in the radwaste engineering group at the corporate office. This individual demonstrated a good knowledge of the gaseous, liquid, and solid processing and waste systems during a tour of these systems; however, he has no applicable operational experience. NUS has been contracted to develop and write radwaste procedures. The drafts of some of these procedures are now ready for review by the licensee. The urgent need to progress in staffing the radwaste group was discussed at the exit meeting.

The licensee has taken measures to correct the concerns noted during the previous inspection regarding the current Radiation Protection - Chemical Engineer's failure to meet the qualifications listed in the FSAR for his position (the qualifications were written for the individual previously holding the position) and apparent failure to meet qualifications to fulfill radiation protection responsibilities assigned to him as a member of OSRO. In response to the concerns, the General Supervisor of Health Physics has been made a member of OSRO, to fulfill radiation protection responsibilities, and the FSAR was updated in May 1982 (Amendment No. 42) to reflect the name, education, training, and experience of the individual currently holding the position of Radiation Protection - Chemical Engineer.

No items of noncompliance or deviations were identified.

#### 4. Training

The radiation protection training program for general employees, radiation workers, users of respiratory protection, and health physics technicians basically remains as described in a previous inspection report.<sup>2</sup> Progress has been made toward finalizing development of the radiation protection program with an approaching final review and concurrence of the program by staff professional health physicists.

No items of noncompliance or deviations were identified.

#### 5. Radiation Protection Procedures

Review and revision (as needed) of radiation protection procedures is continuing. In conducting the review, the health physics technicians have been going through each procedure, step by step, to ensure the procedure is workable and readily understood. Where problems are found, revisions are made. About 30 procedures have been revised and

<sup>2</sup> Ibid.

are in the review process. The revisions are anticipated to be completed and approved by mid-November 1982.

No items of noncompliance or deviations were identified.

6. Facilities, Instruments, and Equipment

During a previous inspection,<sup>3</sup> the licensee stated that a revision to Chapter 12 of the FSAR was in preparation to reflect significant changes in facilities, equipment, and other criteria in the areas of chemistry and radiation protection. Amendment No. 43 to the FSAR, reflecting several of these changes, was issued in July 1982.

During a plant tour of the liquid, gaseous, and solid radwaste facilities, a number of backfit modifications (mainly in liquid systems) made in the interest of ALARA were observed. Types of modifications included: replacement of piping elbows with larger diameter bends; addition of slanted bottoms and spargers in certain tanks to minimize sludge buildup; addition of a cone shaped bottom on a spent resin tank; addition of shield walls between tanks and equipment; and movement of pumps and valving to more accessible locations. The ALARA task force met recently and is working on a method of formal documentation of ALARA efforts. Frequent reference is made to ALARA considerations in recent revisions to both the FSAR and radiation protection procedures. The licensee is actively looking for an individual to fill the position of ALARA Coordinator.

Concrete is being poured for the Onsite Radwaste Storage Facility described in Appendix 11B of the FSAR, issued as Amendment No. 42 in May 1982.

Recognizing that current facilities are either non-existent or inadequate for health physics technician office space, a hot maintenance/decon shop, and a hot I and C shop, the licensee plans to construct a temporary facility for these needs. Later, the licensee plans to construct a permanent facility.

The licensee has obtained one neutron rem counter and is obtaining another similar meter from a different manufacturer, these meters will be evaluated at a university before a decision is made on selection for plant use.

The licensee plans to utilize an in-house TLD reader system with computer memory for storage of dose information except for neutron dosimetry, for which a vendor's services are planned. Degreed health physicists are setting up and operating the inhouse system. A recent preliminary test of the TLD system in the automatic operating mode, using normal and accident range spiked badges for beta and gamma, met the acceptance criteria. A preliminary test using the TLD system in manual mode is to be performed in early October.

<sup>3</sup> Ibid.

Problems in calibrating the whole body counter have been tentatively identified as a problem with the calibration source. If this proves to be the case, the licensee plans to initiate use of the counter by mid-November 1982. The equipment will be operated by two contract radiation protection technicians who are experienced in operation of the equipment.

Efforts have been made to control the indiscriminate use of yellow and orange colored plastic and other items typically used at operating plants to denote contaminated items. No more material of this color is to be ordered, and the licensee plans to have its use under proper control by fuel load date.

No items of noncompliance or deviations were identified.

7. Control of Licensed Radioactive Material

The inspector reviewed the licensee's actions in response to a self-identified problem regarding several small, "limited quantity" sealed sources which were transferred to and stored at an offsite licensee warehouse from early April 1982 to August 12, 1982. The sources were transferred without DOT required shipping papers and were stored at a location not authorized by the NRC Materials License under which the sources were possessed. The sealed sources remained in the original shipping packages, with radioactive material identification on the packages, and were promptly returned to the site warehouse upon discovery. The material remained under control of the licensee and licensee surveys confirmed no evidence of measurable contamination on package surfaces or storage locations. To preclude recurrence, warehouse/shipping personnel have been trained in applicable NRC and DOT regulations, license conditions, and licensee procedures. Additionally, procedures were revised to require attachment of special labels to radioactive material upon receipt at the site. The labels specify requirements for keeping the material onsite and for notifying health physics before moving or opening the package or material. The licensee's corrective measures appear satisfactory.

8. Preliminary Status of Certain NUREG-0737 Items

Regarding in-plant monitoring of iodine in the presence of noble gases, equipment selection is currently being evaluated.

Regarding plant shielding, a detailed study was conducted by Sargent and Lundy resulting in some shielding modifications.

Regarding accident sampling capability for reactor coolant and containment atmosphere, the licensee is following the GE Owners Group position. The equipment is onsite but is not installed.

Regarding accident range iodine and particulate effluent sampling and analysis and noble gas effluent monitoring, the licensee has identified five release points, four of which can be isolated during accident conditions. Eberline SPING-3's will be used for these four pathways. An Eberline SPING-4 with accident range noble gas monitor will be used

for the remaining pathway which includes exhaust from the standby gas treatment system. These monitors are onsite but not installed. The licensee is aware of certain potential generic problems that have been identified with the SPING system. The vendor is analyzing the potential problems.

Regarding the containment high-range radiation monitor, a Gulf Atomic monitor has been ordered.

No items of noncompliance or deviations were identified.

9. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on September 24, 1982. The inspector had further discussion of certain matters with Mr. Griffing by telephone on October 7, 1982. The following matters were discussed:

- a. The purpose and scope of the inspection.
- b. The inspector noted the lack of progress to date in staffing the radwaste group. The licensee acknowledged the need for radiation protection expertise either within the radwaste group or by input from a working relationship with the radiation protection - chemistry group. The licensee acknowledged the urgency for progressing with staffing the radwaste group and stated that efforts toward that goal are continuing. (Section 3)
- c. The inspector stressed the importance of prompt and effective corrective action whenever problems are identified by the licensee. (Section 7)