

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/83-16(DRMSP)

Docket No. 50-341

License No. CPPR-87

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

Facility Name: Enrico Fermi Atomic Power Plant, Unit 2

Inspection At: Fermi Plant Site, Monroe, MI

Inspection Conducted: August 9-11, 1983

Inspectors: *M. J. Oestmann*  
M. J. Oestmann

*8/25/83*

Date

*S. Rozak*  
S. Rozak

*8/29/83*

Date

Approved by: *M. C. Schumacher*  
M. C. Schumacher, Chief  
Independent Measurements and  
Environmental Protection Section

*8/29/83*

Date

Inspection Summary

Inspection on August 9-11, 1983 (Report No. 50-341/83-16(DRMSP))

Areas Inspected: Routine announced inspection of: (1) preoperational radiological environmental monitoring program (REMP), including management controls, program implementation and results, quality control; (2) licensee's chemistry and radiochemistry program, including laboratory and counting equipment; and (3) a review of licensee actions on previous inspection findings. The inspection involved 36 inspector-hours onsite by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

## DETAILS

### 1. Persons Contacted

- \*Dr. W. H. Jens, Vice President, Nuclear Operations, Corporate Office
- \*R. Lenart, Superintendent, Nuclear Production, EF-2
- \*J. C. Guillaumin, Special Assistant to Vice President, Nuclear Operations, Corporate Office
- \*L. Baumgart, Engineer, Nuclear Training, EF-2
- \*J. Kepus, Environmental Engineer, Radiological Technology, Nuclear Engineering Division, EF-2
- \*G. M. Trahey, Engineer, Plant Quality Assurance, EF-2
- \*D. A. Poage, Engineer, Operational Assurance, EF-2
- \*E. H. Hewton, Director, Operational Assurance, EF-2
- \*J. D. Leman, Rad/Chem Engineer, Nuclear Production, EF-2
- \*R. Eberhardt, General Supervisor, Chemistry, EF-2
- \*K. Shields, Chemist, EF-2
  - J. Dutton, Assistant Director of Training, EF-2
  - R. Bennett, Technician, Chemistry Department, EF-2

\*Denotes those present at the plant exit interview.

### 2. Licensee Action on Previous Inspection Findings

- a. (Closed) Open Item (50-341/78-06-01). NRC review of terrestrial monitoring reports. This item was closed in a NRC letter dated June 6, 1983 prepared in response to a licensee letter of May 9, 1983 to the NRC.
- b. (Open) Open Item (50-341/80-07-11). The QA and QC of the nonradiological and radiological analytical laboratory program in chemistry, including laboratory procedures, will be reviewed prior to issuance of the fuel load license. The licensee is progressing satisfactorily in development of laboratory QA programs as discussed in Section 4.b.
- c. (Closed) Open Item (50-341/82-04-01). Licensee agreed to conduct another audit of REMP contracts prior to FLOL. This item was closed out in a NRC letter dated August 2, 1983, prepared in response to a licensee letter of July 6, 1983 to the NRC.
- d. (Closed) Open Item (50-341/82-04-02). Review and approval by the licensee of the NUS REMP sampling and analytical work instructions. This item was closed out in a NRC letter dated August 2, 1983, prepared in response to a licensee letter of July 6, 1983 to the NRC.
- e. (Closed) Open Item (50-341/82-04-04). Deletion of Section 11.6 of the FSAR. This item was closed out in a NRC letter dated August 2, 1983, prepared in response to a licensee letter of July 6, 1983 to the NRC.

- f. (Closed) Open Item (50-341/83-08-01). Ensure the water compositors were working properly. The inspectors observed that the water compositors were operating properly and were functional during a tour of the environmental stations during this inspection. This item is considered closed.

3. Preoperational Radiological Environmental Monitoring Program (REMP)

a. Management Controls

Administrative controls for the REMP remain the same as described in a previous report.<sup>1</sup> The Environmental Engineer manages the licensee's contract with Nuclear Utilities Services, Inc. (NUS) who performs the sample collection and analysis of various environmental media required by the REMP. Discussions with the Environmental Engineer and Mr. Guillaumin indicated effective progress has been made in resolving previous REMP problems. Mr. Guillaumin is currently on special assignment by the Vice President Nuclear Operations to ensure the REMP is effectively implemented. Management controls of the REMP appear adequate.

b. Implementation of REMP

The full preoperational REMP is now underway in accordance with Table 6.1-10 of the licensee's Environmental Report, Supplement 4, dated February 1978. The licensee has obtained essentially full recovery of data since the new air samplers were installed in April 1982, as reported in the licensee's annual report for 1982 and in the quarterly reports for 1983. Review of the weekly collection sheets show an accounting for all samples, with appropriate explanation for missing samples. No anomalous results of samples were identified. The Environmental Engineer plans to develop trend plots of analytical results. These plots will be reviewed in a future inspection. (Open Item 50-341/83-16-01). The inspectors observed the operability of three air samplers and found no problems with any of them. Calibration stickers were affixed to each air pump, indicating calibrations are performed semiannually. Licensee thermoluminescence dosimeters and NRC TLD's which were examined were found to be properly placed. Water compositors at the Trenton Channel Plant and Monroe Pumping Station were found operable and functioning properly. (See Section 2f). The licensee modified Chemistry Procedure 73.000.01 on October 26, 1982 to account for the fact that the water compositor at Fermi 1 intake would be operational only when the water treatment plant was processing Lake Erie water for drinking purposes. During this inspection, this compositor was turned off as Lake Erie water was not being processed. No problems were noted during a tour of the environs stations.

<sup>1</sup> Inspection Report 50-341/83-08.

c. Quality Control of REMP Analytical Measurements

The QC practices of the licensee's REMP contractor, NUS, are described in a previous inspection report.<sup>2</sup> The contractor's QC program for analytical measurements of environmental media appears to be adequate.

d. REMP Work Instructions

As of July 6, 1983 the licensee has reviewed and approved the NUS REMP work instruction P.O. 5.2.15.0 through P.O. 5.2.15.131 described in a previous inspection report.<sup>3</sup> See Section 2d. The inspectors have no further questions regarding this item.

No items of noncompliance or deviations were identified.

4. Chemistry and Radiochemistry Program

a. Procedures

The inspectors reviewed the following procedures for technical adequacy:

<u>Number</u>	<u>Date Approved</u>	<u>Title</u>
71.000.07T	04/29/82	Equipment Layup and Preservation
71.000.08T	07/01/82	TB CCW Sampling and Analysis
71.000.11T	05/10/83	Emergency Diesel Cooling Water Jacket Sampling and Analysis
71.001.01	10/10/78	Fermi Power Plant Wastewater Treatment Facility
72.000.00	10/11/78	Potable Water Treatment Plant Operation
72.000.35	03/08/80	Hazardous Substance Spill and Notification Procedure
73.000.01	10/26/82	Potable Water Treatment Operation
73.004.11	02/20/79	Platinum-Cobalt Standard for Color Determination
73.005.41	06/19/79	Conductivity Determination
73.006.04	06/07/79	Boron Analysis

<sup>2</sup> Ibid.

<sup>3</sup> Inspection Report 50-341/82-21.

73.006.06	02/26/80	Cobalt Analysis
73.006.36	04/08/80	Chloride Analysis, Specific Ion Electrode
74.000.17	06/22/82	Standard Silver Nitrate Titrant
74.008.02	11/20/79	Corrections for Delay (Decay)
74.008.005	08/21/79	Counter Efficiency Determination
74.008.048	11/06/79	Radiochemical Process Isotopic Analysis - Counting Statistics
75.000.08	05/10/83	Operation of the Perkin Elmer Lambda III Spectrophotometer
76.000.04		Chemistry Software/Jobstream Change Control
76.000.76	01/25/83	Operation of the EG&G/Ortec Well Counter

No problems were noted with the above procedures. Several procedures involving Chemistry Quality Verification Programs, and Radiochemistry Counting Statistics have just been prepared and are undergoing review and approval by the Onsite Review Organization (OSRO). These procedures will be reviewed during the next inspection. (Open Item 50-341/83-16-02). In general most procedures for the operation and calibration of laboratory equipment, and preparation of standards and reagents and analytical procedures have been reviewed and approved by OSRO.

b. Quality Assurance/Control of Laboratory Analytical Measurements

The licensee participates in a crosscheck program with Analytics, Inc. Monthly cold chemistry samples are analyzed and quarterly radiochemistry samples are analyzed. The inspector examined cross-check program results from February 1983 to June 1983. Cold chemistry comparison included chloride, boron, silica, ammonium, sodium, nitrate, nickel, iron, copper, chromium, and sodium pentaborate. Results were acceptable. Radiological comparison included gross alpha and beta in water, noble gases in an offgas vial, I-131 in charcoal, tritium, Sr-89, Sr-90, Fe-55, and gamma emitters. Results were generally acceptable except for gross alpha in water and tritium. Disagreements for low level alpha in water are most likely attributable to the fact that the Tennelec Automatic planchet counter used for this measurement does not clearly differentiate between alpha and beta emissions and the licensee did not perform any corrections for cross talk between the two channels. The licensee's ability to measure low level alpha activity will be examined in a future inspection (Open Item 50-341/83-16-03). One

disagreement in a tritium comparison may have been due to other beta emitters being present in the sample. The licensee did not process this sample to remove other beta emitters. The licensee's ability to measure tritium will be examined in a future inspection. (Open Item 50-341/83-16-04).

The inspectors examined QC logs kept for the counting instruments for the month of August. In general the recorded results of daily QC counts do not contain enough precision to indicate when instrument performance is degrading. Control limits and actions to be taken when instrument performance degrades are poorly defined. The licensee is currently working on improving these aspects of QC in the counting room. This matter will be examined in a future inspection. (Open Item 50-341/83-16-05).

In general equipment in the chemistry laboratory and counting rooms were found operational and properly maintained during a tour of these facilities and technicians are being trained in their use. Equipment in the chemistry laboratory is being calibrated on a regular basis and a QA/QC program for the chemistry laboratories and counting room is in the process of being developed. They will be examined in a future inspection. (Open Item 50-341/80-07-11).

c. Observation of a Chloride Analysis

The inspectors observed a technician perform a chloride analysis. The technician followed chemical procedure 77.000.55, Chloride Analysis, Clarke. However, the technician did not have available a log book to document his calculations of chloride analysis. He used scrap paper to record some information. He did report the final analytical results on a daily data log sheet which is daily reviewed by the laboratory chemist and the General Supervisor, Chemistry. The need to improve laboratory documentation was discussed in the exit interview. (Open Item 50-341/83-16-06).

d. Chemistry Training

The inspectors discussed the training programs the Chemistry Supervisor, Chemist, and technicians are required to complete in the Nuclear Training Department. The inspectors reviewed the courses the Chemistry Supervisor is required to take totaling 756 hours involving lectures and experiments in the following subjects:

<u>Course</u>	<u>Time</u>
Systems	2 weeks
Radiochemistry	12 weeks
Respiratory Protection	8 hours
Personal Protection Procedure	1 hour
Radiation Worker	12 hours
Chemistry Administrative Procedures	3 hours
Planned Administrative Procedures	3 hours
Fermi - 2 Orientation	4 hours
Mitigating Core Damage	2 days

Another course - Nuclear Chemistry - will be available by the end of September. The Emergency Operation Facilities laboratory has been used at present for training purposes. Technicians have four chemistry method courses to take. The technicians are also trained on the job. At present five technicians have completed most of the courses except for Nuclear Chemistry. Another five are in the middle of training. They will complete the majority of courses prior to issuance of fuel load license. The licensee will be able to meet his commitment to have three chemical technicians fully qualified by FLOL issuance. The chemistry training program appears to be well managed and the subject material comprehensive.

d. Licensee Internal Audit

The inspectors reviewed Audit Report (No. A-OA-C-83-04) regarding an audit of plant chemistry performed by the licensee's Operational Assurance Department on February 15-18, 1983. The licensee identified three findings and eight observations. Responses to the findings are being made by the Chemistry Department. Corrective actions to the findings and observations were also observed by the inspectors during a tour of the Chemistry Laboratory. A follow-up audit of the chemistry program will be performed by the licensee in October. This item will be examined during a future inspection. (Open Item 50-341/83-16-07).

f. Spiked Sample Program

The inspectors discussed the confirmatory measurements program with licensee representatives and agreed to send the licensee a spiked particulate filter and charcoal adsorber and to arrange for the NRC Reference Laboratory to send a spiked liquid sample. The licensee representative reported that their counting equipment is calibrated and the laboratory ready to analyze the samples. The analytical results will be reviewed in a subsequent inspection. (Open Item 50-341/83-16-08).

No items of noncompliance or deviations were identified.

5. Exit Interview

The inspection scope and findings were discussed with licensee representative (Section 1) after the inspection on August 11, 1983. The inspectors acknowledged improvement in REMP management controls and implementations. The licensee acknowledged the need to complete the development of the chemistry and radiochemistry program prior to fuel load as discussed in Section 4.