

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-454/85020(DRSS); 50-455/85014(DRSS);
50-373/85015(DRSS); 50-374/85015(DRSS);
50-254/85013(DRSS); 50-265/85014(DRSS);
50-295/85019(DRSS); 50-304/85020(DRSS)

Docket Nos. 50-454; 50-455
50-373; 50-374
50-254; 50-265
50-295; 50-304

Licenses No. NPF-23; CPPR-131
NPF-11; NPF-18
DPR-29; DPR-30
DPR-39; DPR-48

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Byron, LaSalle, Quad Cities and Zion Nuclear Stations,
Units 1 and 2

Inspection At: Commonwealth Edison Company Headquarters

Inspection Conducted: April 25 and May 3, 1985

Inspector: M. J. Oestmann *M. J. Oestmann*

5/11/85
Date

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

5/11/85
Date

Inspection Summary

Inspection on April 25 and May 3, 1985 (Reports No. 50-454/85020(DRSS);
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Areas Inspected: Special, unannounced inspection of the Radiological Environmental Monitoring Program (REMP) for the Byron, LaSalle, Quad Cities, and Zion Stations conducted at the licensee's corporate office, including a review of management controls, program implementation, audits, and followup on previously identified violations and open items. The inspection involved 4 hours at the corporate office by one NRC inspector.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

- A. Sellars, Quality Assurance Auditor, CECO
- ¹J. Golden, Supervisor of Emergency Planning Section, CECO
- ¹C. Bennett, Group Leader Environmental, CECO
- ¹D. Kenealy, Environmental Health Physicist, CECO
- ²R. Dwyer, Emergency Planning Section, CECO

The inspector also contacted other licensee personnel during this inspection.

¹Present at the exit meeting on April 25, 1985.

²Present during telephone conversation on May 3, 1985.

2. Licensee Actions on Previous Inspection Findings

- a. (Open) Violation (373/85-03-04; 374/85-03-04; and 373/83-40-01): Failure to perform gamma isotopic analyses on each milk sample as required by T/S Table 3.12.1-1. Originally identified during an October 1983 (373/83-40) inspection, this was still uncorrected during a subsequent inspection in January 1985 (373/85-03; 374/85-03). The licensee, in a letter dated March 21, 1985, stated that the contractor was notified in writing of the required change on February 1, 1985, followed by conversations with the contractor and field collector on February 25 and March 4, 1985, respectively. Full compliance was promised by May 1985 when weekly milk sample collection begins. During the current inspection, it was noted that the April 17, 1985, erratum to the 1984 REMP report still incorrectly lists (Table 5.0-2) a monthly frequency for gamma isotope analysis of milk and that the ODCM (Revision 10, September 1983) fails to list the gamma isotopic analysis requirement at all. This item will remain open until the documentation discrepancies are corrected and implementation of appropriate analysis frequency is confirmed.
- b. (Closed) Violation (50-373/85-03-05; 50-374/85-03-05): Failure to provide maps of all REMP sampling locations keyed to a table giving distances and directions from one reactor. The licensee submitted to the NRC an annual report and erratum for CY 1984 which included the required information.
- c. (Open) Violation (50-373/85-03-06; 50-374/85-03-06): Failure to perform required QA audit of the LaSalle REMP and results from October 1983 through 1984. The licensee, in a response letter dated March 21, 1985, noted that an early 1985 audit (01-85-04) had verified appropriate analyses of airborne particulate and radioiodine samples during the last quarter of 1984 and that an October 1985 scheduled audit of Teledyne would also address LaSalle specific program results. This item remains open pending review of these audits.

- d. (Open) Open Item (295/82-30-06; 304/82-27-06): Issuance of corrections to 1981 annual report. The 1981 report was corrected but some of the errors were again seen in the 1982 and 1983 REMP reports and in the Zion Offsite Dose Calculation Manual (ODCM). Final errata for the 1982 and 1983 reports were issued April 17, 1985, and the 1984 REMP report, together with the erratum of April 18, 1985, did not show recurrence of the errors. The errors in the ODCM are supposed to be corrected in an updated ODCM scheduled for issuance about July 1, 1985. This item remains open pending review of that document and reconciliation of the various documents describing the REMP.

3. Management Controls and Organization

Management responsibility for the Radiological Environmental Monitoring Program (REMP), including administration of the contract with Teledyne Isotopes, Inc., is assigned to the Emergency Planning Section of the Technical Services Nuclear Department in the Corporate office. Section responsibility also includes maintenance of the plants' Offsite Dose Calculation Manuals. Within the section, a group of three health physicists is assigned to oversight of the REMP including review of the annual reports and monthly data submittals prepared by Teledyne. Responsibility for audits of the REMP is assigned to the corporate Quality Assurance Department.

Previous inspections ¹⁻⁸ at the stations identified problems indicating weaknesses in review and audits of the REMP. These included:

- a. Proper description discrepancies between the annual reports, technical specifications, and the ODCM;
- b. Incorrect LLD values;
- c. Incorrect nonroutine reporting levels in the ODCM and annual reports;
- d. Incomplete or incorrectly described monitoring locations in annual reports;
- e. Incorrect sampling/analyses frequency for radioiodines;
- f. Gaps in TLD coverage;

¹RIII Inspection Report 295/82-30, 304/82-27

²RIII Inspection Report 295/83-18, 304/83-19

³RIII Inspection Report 295/84-16, 304/84-16

⁴RIII Inspection Report 373/83-40

⁵RIII Inspection Report 373/85-03, 374/85-03

⁶RIII Inspection Report 454/83-14, 455/83-12

⁷RIII Inspection Report 454/84-01, 455/84-01

⁸RIII Inspection Report 254/83-21, 265/83-19

- g. Leaking air samples;
- h. Absence of QA audit of plant specific REMP program;
- i. Uninvestigated gross beta differences between intake and discharge water;
- j. Incorrect formula for quantification of iodine-131 in air samples; and
- k. Absent or improperly installed air sampler flow meters.

Recurrence of several of these problems in subsequent inspections has indicated incomplete or slow corrective actions. In particular, correction of discrepancies between the various documents describing the REMP has not been very effective, with matters apparently corrected by an erratum to one annual report reappearing in the next. During this inspection, the inspector noted continuing inconsistencies in the Zion, LaSalle, and Quad Cities annual REMP reports (Sections 2 and 4). Some improvements were also noted.

In recognition of these problems, the licensee in a recent (March 1985) reorganization of the Emergency Planning Section took steps to place greater emphasis on environmental matters. REMP oversight, including reconciliation of the technical specifications, ODCM, and contractor reports was assigned to an Emergency Planning Supervisor with environmental experience. A group of three health physicists under this supervisor will have REMP oversight as its principal responsibility. The supervisor stated that the group will also be making spot checks in the field and will be in close contact with the contractors' sample collectors to ensure proper sample collection and processing.

Region III will review the effect of these changes in subsequent inspections.

4. Review of 1984 Annual Reports

The inspector reviewed the respective "Radioactive Waste and Environmental Monitoring Reports - 1984" and errata to each report and monthly data reports for January through December 1984 for the Byron, LaSalle, Quad Cities, and Zion plants, prepared by the licensee's contractor, Teledyne Isotopes, Inc. The 1984 annual reports with errata for the four plants are an improvement over the 1983 reports in that they included maps of all sampling stations keyed to a table giving distances and directions from the reactor in accordance with appropriate technical specification for each plant. The reports also included the results of the Milch annual and residence census conducted in August 1984 for each plant and the results of the EPA interlaboratory comparisons as required by technical specifications.

The inspector made the following observations regarding the annual reports for specific plants:

a. Byron

An annual report is not required for Byron "prior to May 1 of the year following initial criticality" (T/S 6.9.1.6). Inspector review of the contractor's monthly data reports indicated the gross beta anomaly in the cooling water discharge which was identified before fuel load (March 1983)⁹ was still present. This matter was closed¹⁰ after licensee investigation identified the cause as naturally occurring potassium-40 resulting from water treatment. No other data anomalies were noted.

The absence of a community drinking water supply within 10 kilometers downstream of the plant precluded collection of H₂O samples as required by Technical Specification Table 3.12-1. However, the requirement remains in the technical specification to be enforced if this condition changes in the future.

b. LaSalle

Three violations, pertaining to failure to perform gamma isotopic analysis of each weekly milk sample (Section 2.a), to include a table of sampling locations (Section 2.b), and to perform an audit of the LaSalle REMP (Section 2.c) were identified in a previous inspection.¹¹

The 1984 annual report and erratum included a table, with maps, of sampling locations and a revised program description to correct errors in the program. This submittal closes out the second of the three violations noted above. Licensee representative indicates that corrective actions for the other matters are in progress or completed (Section 2). However, as noted in Section 2.a, program description discrepancies between the technical specifications, the ODCM, and the contractor prepared annual report remain to be reconciled. It was also indicated that work is progressing on previously identified¹² open items concerning apparent gaps in the inner TLD ring and the use of multiple TLD numbering systems. These matters will be reviewed in a subsequent inspection.

c. Quad Cities

Review of the 1984 annual report and an addendum dated April 24, 1985, identified no trends or anomalous data results. No effects of station operation were discerned. Minor discrepancies were noted for nonroutine reporting levels for fish, milk, and surface water listed in the technical specifications, the ODCM, and the annual report.

⁹RIII Inspection Report 454/83-14; 455/83-12

¹⁰RIII Inspection Report 454/84-34; 455/84-27

¹¹RIII Inspection Report 373/85003; 374/85003

¹²RIII Inspection Report 373/83-40

d. Zion

Inspectors identified errors in the listing of LLD and nonroutine reporting levels in the 1981 REMP report.¹³ The licensee issued corrections but several of the nonroutine reporting level errors were repeated in the 1982 and 1983 REMP reports.^{14 15} Final errata for these reports were issued by letter dated April 17, 1985. Similar discrepancies were also noted in the ODCM during the 1984 inspection. Although of relatively minor significance, the persistence of these errors and discrepancies indicated weaknesses in REMP program review.

Inspector review of the 1984 REMP report and its erratum of April 18, 1985, during the current inspection, identified no discrepancies between this document and the technical specifications. No data anomalies or trends were identified.

An erroneous listing of a Quad Cities cooling water sampling location in the Zion annual report for 1984 was noted and pointed out to licensee representatives who indicated that a correction would be made.

The inspector noted that discrepancies with the technical specification were still present in the current Zion ODCM. The licensee, in a letter dated April 12, 1985, stated that the Zion ODCM would be updated with an estimated completion date of July 1, 1985. The updated document will be reviewed before closing open items regarding these matters.

5. Licensee Internal Audits

The inspector reviewed the licensee report of a general quality assurance program audit of the REMP contractor (Teledyne Isotopes) performed October 18, 1984. The audit appeared generally thorough with generally adequate and timely responses to findings and observations but did not specifically review REMP results. As noted in an earlier inspection at LaSalle¹⁶, this audit and others reviewed at that time did not satisfy the station's technical specification requirement of a yearly audit of the REMP results. The licensee, in a March 21, 1985, letter listing corrective actions, stated that an early 1985 audit reviewed selected 1984 LaSalle data and that a scheduled 1985 audit of Teledyne would also specifically address LaSalle REMP results.

¹³RIII Inspection Report 295/82-30; 304/82-27

¹⁴RIII Inspection Report 295/83-18; 304/83-19

¹⁵RIII Inspection Report 295/84-16; 304/84-16

¹⁶RIII Inspection Report 373/85-03; 374/85-03

6. Exit Interview

The inspector met with licensee representatives (Section 1) at the conclusion of the inspection on April 25, 1985. The scope and findings of the inspection were discussed. A licensee representative stated that closer management oversight of the contractor's performance is planned to assure a quality program. Additional discussion on administration and organization was held with a licensee representative on May 3, 1985.

During the inspection, the inspector discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. Licensee representatives did not identify any such documents/processes as proprietary.