

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-373/84-13(DRMSP); 50-374/84-17(DRMSP)

Docket No. 50-373; 50-374

License No. NPF-11; NPF-18

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

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle County Site, Marseilles, IL

Inspection Conducted: May 15-18 and 23, 1984

Inspectors: *D. E. Miller*
D. E. Miller

6/4/84
Date

M. J. Oestmann
M. J. Oestmann

6/4/84
Date

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

6/4/84
Date

Inspection Summary

Inspection on May 15-18 and 23, 1984 (Report No. 50-373/84-13(DRMSP);
50-374/84-17(DRMSP))

Areas Inspected: Routine unannounced inspection of the operational radwaste management program, including organization and staffing, gaseous radwaste, liquid radwaste, chemical and radiochemical tests, solid radwaste, audits, and surveillances. Also reviewed were licensee actions on past open items, startup radiation surveys, and an incident concerning access to a high radiation area. The inspection involved 57 inspector-hours on site by two NRC inspectors.
Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

- *L. Aldrich, Lead Health Physicist
- J. Andrews, Radwaste Shipping Coordinator
- *R. Bishop, Assistant Superintendent, Administrative and Support Services
- R. Caraway, Quality Assurance Inspector
- W. Eisele, Health Physicist
- D. Hieggelke, ALARA Coordinator
- *R. Kyrouac, Quality Assurance Supervisor
- D. Leggitt, Acting Radwaste Coordinator
- *F. Lawless, Rad/Chem Supervisor
- J. Lewis, Health Physics Coordinator
- *P. Manning, Assistant Technical Staff Supervisor
- D. Marsh, Health Physicist
- P. Nottingham, Lead Chemist
- *C. Sargent, Assistant Superintendent, Operations
- J. Schuster, Chemist

- *D. Evans, NRC Resident Inspector
- *M. Jordan, NRC Senior Resident Inspector

The inspectors also contacted several rad/chem foremen, engineering assistants, and technicians.

*Denotes those present at the exit meeting.

2. General

This inspection, which began at 9:30 a.m. on May 15, 1984, was conducted to examine the licensee's operational radioactive waste systems and related activities for compliance with regulatory requirements. Also examined were past open items, startup of Unit 2 radwaste systems, Unit 2 start-up radiation surveys and an incident that occurred during the inspection. No significant problems were identified.

3. Licensee Action on Previous Inspection Findings

(Closed) Open Item (373/84-06-01; 374/84-06-01): Quality assurance checks of film badge vendor results. Anomalous vendor results of certain exposure ranges of one set of spiked badges has not recurred. It appears that the erroneous results were caused by improper spiking. The inspector has no further questions.

(Closed) Open Item (373/84-06-02; 374/84-06-02): Surveys of stored contractor tools. The licensee began conducting routine surveys of stored contractor tools in April 1984 as committed.

(Open) Open Item (373/83-33-01; 374/83-32-01): High background on liquid radwaste effluent monitor. The licensee found that deposits in the discharge line contributed to the high background. The licensee plans to relocate the monitor to reduce the external radiation background.

(Open) Open Item (373/84-06-03): Several Unit 1 containment penetrations permit transmission of higher than expected radiation levels. A work request has been written to provide additional permanent shielding for these penetrations during the first extended outage. Temporary shadow shielding has been installed near most of these penetrations.

(Closed) Open Item (373/84-03-03): Generic letter to licensee concerning implementation of 10 CFR 61. The licensee received the letter and is implementing the requirements.

4. Organization and Staffing

Since reported in Inspection Report No. 373/83-33; 374/83-32, the following rad/chem related organizational changes have been made or are planned.

- . L. Shearer, former Lead Chemist, has transferred to the Operating Department at the station.
- . P. Nottingham, former Chemist, has been promoted to the vacated Lead Chemist position. He meets the "Radiochemistry" requirements listed in Section 4.4.3 of ANSI N18.1-1971.
- . R. Brock, now at CECO Corporate Office, will begin work as a health physics engineering assistant at LSCS in June 1984.

Three rad/chem technicians (RCTs) have transferred to Braidwood Station. There are now 27 RCTs, including four in training.

5. Rad/Chem Department Facilities

Additional office space has been provided the rad/chem department by partitioning a portion of the lunch room, adjacent to the rad/chem foremen's office in the Service Building. The space now houses the ALARA coordinator, health physics coordinator, and two health physics EAs.

6. Gaseous Radioactive Waste

The inspectors reviewed the licensee's gaseous radwaste management program, including: changes to equipment and procedures for compliance with 10 CFR 50.59; gaseous radioactive waste effluents for compliance with regulatory requirements; adequacy of required records, reports, and notifications; process and effluent monitors for compliance with maintenance, calibration, and operational requirements; and experience concerning identification and correction of programmatic weaknesses.

The inspector selectively reviewed records of gaseous releases made during 1984 to date. All Unit 1 and 2 gaseous effluents are released via a common station vent stack. Noble gas grab samples are collected from the stack in 4.7 liter marinelli beakers at least weekly; particulate and iodine filters are collected daily. The detection sensitivity for technical specification designated principal gamma emitters exceeds requirements; sampling frequency meets or exceeds requirements.

Recalibration of the station vent stack and standby gas treatment wide range gas monitors were performed during 1984; the low range monitors were calibrated in January and February, the high range monitors in April. The low range monitors were calibrated using Xe-133 and Kr-85; the high range with Xe-133. No significant changes from past calibrations were identified. The licensee also performed several beta and gamma response sensitivity checks using solid sources with various energies; the results were forwarded to a consultant by the licensee for interpretation of the results.

No violations or deviations were noted.

7. Liquid Radioactive Wastes

The inspectors reviewed the licensee's liquid radwaste management programs, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; determination whether liquid radioactive waste effluents were in accordance with regulatory requirements; adequacy of required records, reports, and notifications; determination whether process and effluent monitors are maintained, calibrated, and operated as required; and experience concerning identification and correction of programmatic weaknesses.

The inspectors selectively reviewed records of liquid releases made during 1964 to date. Sampling and release methods and procedures, sensitivity of isotopic analysis, and records and reports appear adequate.

Recalibration of the liquid radwaste discharge monitor using a C-137 liquid source was performed during March 1984. Monitor sensitivity agreed with the previous primary calibration.

No violations or deviations were identified.

8. Chemical and Radiochemical Tests

The inspector reviewed the licensee's chemical and radiochemical tests of the reactor coolant system for Unit 1 at full power, and for Unit 2 at varying power levels up to 30 percent of rated power, including adequacy of implementing procedures to accurately analyze for nonradiological chemicals and radioactivity in reactor coolant and process water systems; adequacy of laboratory and counting equipment and facilities; quality control of analytical measurements; and adequacy of required records, reports, and notifications concerning out of specification and operating levels, and correction of programmatic weaknesses.

The inspector reviewed selected procedures for radiological and nonradiological chemical analyses of reactor coolant and effluents for adequacy and completeness. The procedures appeared to be technically adequate. They included analysis of boron, high and low range chloride, silica, turbidity, total suspended and dissolved solids, dissolved oxygen, various metals, pH, and conductivity. They also involved instrumentation, operating procedures, calibration, and performance checks including those for the gamma multi-channel analyzers, alpha-beta, and liquid scintillation counter. The procedures meet the guidance of NRC

Regulatory Guide 4.15. The inspector also observed thru spot checks that Rad/Chem Technicians (RCT) followed these procedures during analysis of chloride, fluoride, pH and conductivity.

No problems were observed with licensee procedure STP 1-2 "Chemical and Radiochemical Review of Startup Test Results" which concerns analytical measurement results for testing of the reactor coolant and offgas and liquid effluent systems during startup of Unit 2. The purpose of the test was to obtain information on chemistry and radiochemistry of reactor coolant and to determine whether sampling equipment, procedures, and analytical techniques are adequate to supply required data.

The inspector reviewed selected licensee records to determine compliance with technical specification requirements for reactor coolant periodic tests, chemical control, and radioactivity. Records for 1984 to date were reviewed. At no time were the technical specifications for chloride, pH, conductivity, or specific activity exceeded for the respective modes of plant operation. The inspector noted that when the licensee's internal operating limits for silica or turbidity were exceeded for the demineralizer, the shift engineer was promptly notified and necessary corrective actions taken to reduce these concentrations. A tour of the hot and cold chemistry laboratories indicated no problems regarding the adequacy of these facilities. Each instrument was found operational and properly calibrated in accordance with a prescribed schedule. Chemical solutions were found appropriately labeled with no reagent that exceeded the date of expiration. However, housekeeping pertaining to disposal of radioactive waste needed improvement. This matter was discussed at the exit meeting.

The temperature in the counting room was 96°F. The inspectors discussed their concern regarding the reliability of counting data because of the affect of the high temperature on the counting equipment. The inspectors also noted that the quality control performance test results taken daily on check sources and background samples and plotted on control charts were frequently found to be out of specifications. The counting room log book showed a repeated number of statistical failures during the 1984 performance tests before an acceptable result could be obtained in the software. The inspectors noted that the statistical error in the counting data (failures) were only a deviation of 1-2 percent of the acceptable results. This item was discussed at the exit meeting and the licensee agreed to investigate the cause of the problem. This is considered an open item. (50-373/84-13-01; 50-374/84-17-01).

No violations or deviations were identified.

9. Solid Radioactive Waste

The inspectors reviewed the licensee's solid radwaste management program, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; adequacy of implementing procedures to properly classify and characterize waste, prepare manifests, and mark packages; overall performance of the process control and quality assurance programs; adequacy of required records, reports, and notifications; and

experience concerning identification and correction of programmatic weaknesses.

The inspector noted that the licensee's radwaste procedures (LRP 1520-1 through LRP 1520-8) have been revised to comply with the requirements of 10 CFR 20.311 and 10 CFR 61 applicable to low-level radwaste classification, form, and stabilization. These procedures were found to be adequate except there is no specific procedure for preparing manifests and labeling packages. This matter was discussed with the licensee who agreed to review the possible need for additional procedurization.

Records of solid radwaste shipments made in 1984 to date were selectively reviewed. Twenty-four shipments containing about 9200 cubic feet of compacted dry active waste and solidified evaporator bottoms were made. Total content shipped was about 28 curies. All shipments were Class A in accordance with 10 CFR 61.55. The information on the shipping papers appear to satisfy NRC, DOT, and burial site requirements.

The licensee is using correlation factors suggested by the AIF/NESP Report, "Methodologies for Classification of Low-Level Radioactive Wastes from Nuclear Power Plants" for classifying wastes. These correlation factors are used to determine concentration of difficult-to-measure radionuclides such as transuranics and beta emitters. The licensee plans to modify the AIF correlation factors, based on analytical results recently obtained from Science Applications, Inc., a contractor, who analyzed samples taken from the LaSalle reactor coolant, evaporator bottoms, solid waste, smears, waste filter sludge, and reactor coolant crud. The results include analysis of gamma and beta emitters, and transuranics required by 10 CFR 61.55.

The inspector toured the radwaste facility and identified no problems. Overall performance of the process control program appeared to be adequate. The licensee recently revised procedure LAP 200-5, Process Control Program, to include 10 CFR 61 requirements.

The inspectors noted that QA representatives inspect every shipment of radwaste, and complete a QA checklist. No problems were identified by the QA representatives during the September 1983 through April 1984 period. These representatives also perform an annual audit of the licensee's radwaste program. During the October 24-31, 1983 audit, they identified two findings concerning inadequate maintenance of records on receipt, transfer, and disposal of byproduct materials. Both items were closed out in 1984.

No violations or deviations were identified.

10. Licensee Quality Assurance Audits

The inspectors reviewed the reports of eight licensee quality assurance audits and surveillances of chemistry, radiochemistry, and radwaste conducted since September 1983. Several findings were identified by station and corporate QA representatives; all findings have since been corrected by the licensee and accepted by QA representatives. None of the findings indicated significant programmatic weaknesses.

No problems concerning conduct of the audit program or adequacy of response to findings were noted.

11. Radioactive Waste System Surveillances

The inspectors selectively reviewed required and optional radioactive waste system surveillances performed during 1984 through April. The following surveillances were reviewed.

LOS-OG-QA	Off-Gas System Quarterly Surveillance
LOS-PR-MI	Unit 1 and 2 Standby Gas Treatment Radiation Monitoring System Source Check (Technical Specification 4.3.7.5-1)
LOS-PR-M2	Service Water, RHR Service Water, and RBCCW Process Radiation Monitoring Source Check
LOS-PR-M3	Main Stack and SBT Wide Range Radioactive Gas Monitors Source Check (Technical Specification 4.3.7.5-1)
LOS-PR-W1	Main Stack Wide Gas Monitor Auxiliary Pump Flow Verification
LOS-WF-Q1	Liquid Radwaste System Operability Test and Radwaste Effluent Flowmeter Channel Functional Test
LOS-WX-SR1	Solidified Radwaste Container Visual Inspection; Weekly Review of Solidified Radwaste Process Control Parameters.

No violations or deviations were noted.

12. Startup Radiation Surveys, Unit 2

The inspector reviewed startup radiation surveys performed before fuel load, before initial criticality, during heatup, at about 10 percent power, and at about 30 percent power. These surveys, performed in accordance with Procedure STP-2-2 "Radiation Measurements", were made to determine if any shielding abnormalities exist. No significant abnormalities were identified.

Further surveys will be performed by the licensee at about 60 and 95 percent of rated power.

13. Review of a High Radiation Area (HRA) Access Incident

The inspector reviewed an incident which occurred, on May 22, 1984. An NRC resident inspector observed a contractor guard who appeared to be asleep when he was supposed to be providing surveillance over access to a HRA. The HRA was adjacent to the waste sludge pump room on the 663-foot level of the turbine building.

The inspector toured the involved area, discussed the incident with the guard's supervisor, reviewed instructions given the guard, and reviewed the radiological conditions of the involved area. The inspector concluded that:

- . The involved area was adequately posted with radiological warning signs.
- . The maximum radiation level in the area was 400 mR/hr.

- . Although there is no evidence that actual entry to the HRA was made while the guard was inattentive, entry could have been made without the guard's knowledge.
- . In addition to the guard's inattentiveness the instruction provided the guard concerning his duties were not detailed enough to ensure proper performance of his access control duties even if he had been attentive.

The above matters were discussed with licensee management. Enforcement actions for failure to provide adequate access controls for a HRA will be presented in Inspection Reports No. 373/84-14; 374/84-18.

14. Exit Meeting

The inspectors met with licensee representatives (denoted in Section 1) on May 18, 1984, and with Mr. Bishop at the conclusion of the inspection on May 23, 1984. The inspectors summarized the scope and findings of the inspection. In response to the inspectors' comments, the licensee:

- a. Acknowledged the need to improve housekeeping in the chemistry laboratories by more frequent pick-up and removal of accumulated radwaste (Section 8).
- b. Stated that the counting room air conditioning repair was being given appropriately high priority and would be operational as soon as parts are received (Section 8).