U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/84-31(DRSS); 50-374/84-38(DRSS)

Dockets No. 50-373; 50-374 Licenses No. NPF-11; NPF-18

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

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle County Site, Marseilles, IL

Inspection Conducted: November 26-29 and December 3-4, 1984

WB Grant for

Inspector: D. E. Miller 12/28/84
Date

WB Grant for

Approved By: L. R. Greger, Chief 12/28/84
Facilities Radiation Protection Section Date

Inspection Summary

Inspection on November 26-29 and December 3-4, 1984 (Reports No. 50-373/84-31(DRSS); 50-374/84-38(DRSS))
Areas Inspected: Routine unannounced inspection of the operational radiation protection program, including organization and management controls; training and qualifications; external and internal exposure controls; and audits. Also reviewed was liquid effluent monitoring, reactor coolant chemistry, and a personal contamination event. The inspection involved 48 inspector-hours on site by one NRC inspector.
Results: Of the seven areas inspected, no violations or deviations were identified in six areas; one violation was identified in one area (failure to establish a proper liquid release monitor alarm/trip setpoint - Section 8).

DETAILS

1. Persons Contacted

*L. Aldrich, Lead Health Physicist
H. Barch, Trainer
*R. Bishop, Assistant Superintendent, Administrative and Support Services
R. Crawford, Training Supervisor
*G. Diederich, Station Superintendent
D. Hieggelke, ALARA Coordinator
*F. Lawless, Rad/Chem Supervisor
J. Lewis, Health Physics Coordinator
W. Luett, Group Leader, Technical Staff Engineering
D. Trager, Stationman Foreman
J. Schuster, Chemist

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

*F notes those present at the exit meeting.

2. General

This inspection, which began at 8:30 a.m. on November 26, 1984, was conducted to examine the licensee's operational radiation protection program and related activities for compliance with regulatory requirements. Also reviewed was compliance with technical specification requirements concerning liquid effluent releases and reactor coolant chemisty, and a personal contamination event. Tours of controlled areas were made to review the adequacy of radiological postings and access controls. No significant problems were noted during the tours. Cleanliness and maintenance of radiological access areas appear good. One violation was identified concerning release of liquid effluent with a nonconservative alarm/trip setpoint.

3. Organization and Management Controls

The inspector reviewed the licensee's organization and management controls for the radiation protection program including changes in the organizational structure and staffing, effectiveness of procedures and other management techniques used to implement these programs, experience concerning self-identification and correction of program implementation weaknesses, and effectiveness of audits of these programs.

Discussions concerning newly hired rad/chem personnel qualifications and specific quality assurance audits conducted during 1984 are presented in other sections of this report.

The inspector noted that licensee station and corporate quality assurance audits have been effective in identification of problems; corrective actions have generally been adequate and timely.

The inspector reviewed Radiological Occurrence Reports (RORs) written during 1984, to date, and noted that several procedural violations and weaknesses were identified by the licensee. Corrective actions were generally adequate and timely. The rad/chem supervisor provides periodic reports to upper management concerning the effectiveness of the ROR program.

No violations or deviations were identified.

4. Training and Qualifications

The inspector reviewed the training and qualifications aspects of the licensee's radiation protection program, including: changes in responsibilities, policies, goals, programs, and methods: qualifications of newly hired or promoted radiation protection personnel; and provision of appropriate radiation protection, radwaste, and transportation training for station personnel. Also reviewed were management techniques used to implement these programs and experience concerning self-identification and correction of program implementation weaknesses.

Rad/Chem Technician (RCT) retraining was specifically reviewed. Changes to radiation chemistry procedures are assessed by the rad/chem supervisor and a training department trainer, to determine need for formal training of RCTs concerning the changes. If determined necessary, the trainer and/or a rad/chem supervisor provides the training and formally establishes a training record; this is a continuing program. RCTs also receive annual formal retraining concerning radiological occurrence reports, modifications, departmental changes, first aid refresher, GSEP, and hands-on retraining in sample collection using the HRSS; this training, which is conducted in segments throughout the year, takes about 40 hours. The licensee stated that plans are being developed to include health physics theory in refresher training. This training would be conducted on a two-year interval.

Since reported in Inspection Report Nos. 50-373/84-13(DRSS); 50-374/84-17(DRSS), E. Huerta-Pavia, a 1983 BS Health Physics graduate, has been hired as a health physicist. No specific qualification requirements exist in ANSI N18.1-1971 for this position.

Two quality assurance audits that included rad/chem training and qualifications were performed during 1984. There were no significant audit findings.

No violations or deviations were identified.

5. External Exposure Control and Personal Dosimetry

The inspector reviewed the licensee's external exposure control and personal dosimetry programs, including: changes in facilities, equipment, personnel, and procedures; adequacy of the dosimetry program to meet routine and emergency needs; planning and preparation for maintenance and refueling tasks including ALARA considerations; required records, reports, and notifications; effectiveness of management techniques used to implement these programs and experience concerning self-identification and correction of program implementation weaknesses. Audits are discussed in Section 7.

According to licensee records and discussions with the licensee, no station or contractor employee is expected to receive greater than five rems whole body dose during 1984. The highest individual dose noted was 1110 mrem for one individual during the fourth calendar quarter to date. The licensee appears to be in compliance with 10 CFR 20.101, 102.104. and 202. The inspector verified that the licensee has reported exposure data in accordance with 10 CFR 20.408.

The licensee is planning to begin use of a new Radiation Work Permit (RWP) system during the first calendar quarter 1985. RWPs will be issued for all work in radiologically controlled areas. The current program does not require an RWP for jobs where the daily dose expected for the individual is less than 50 mrem, except for cutting, welding, grinding, etc. The licensee believes that inclusion of all tasks in the RWP program will aid in extending ALARA review of lower dose rate tasks.

The licensee continues to experience situations where High Radiation Area (HRA) doors are left unsecured and unattended. During the period June through October 1984, there were twelve such events described in radiological occurrence reports. The frequency appears to have diminished after October 1984. The licensee stated that the importance of assuring that HRA doors are properly locked or controlled has been stressed to station and contractor personnel. The reduction in frequency of occurrence is believed to be related to the indoctrination process. The inspector discussed with the licensee the desirability of investigating additional methods of assuring that access to HRAs are properly controlled. This matter was discussed at the exit meeting.

During tours of the Unit 1 reactor building, the inspector noted that most friskers, placed at step-off-pads, were switched to the times 10 scale because of high background levels. The ability of these friskers to detect other than gross personal contamination levels is therefore hampered. The inspector discussed with the licensee the need to provide shielding for these friskers to improve their detection sensitivity. The

licensee stated that possible methods of providing shielding for the friskers is being investigated. The inspector discussed with the licensee the need to expedite the consideration of methods, and the provision of the shielding. This matter was discussed at the exit meeting and will be further reviewed during a future inspection. (373/84-31-01(DRSS); 374/84-38-01(DRSS))

No violations or deviations were identified.

6. Internal Exposure Control and Assessment

The inspector reviewed the licensee's internal exposure control and assessment programs, including: changes in facilities, equipment, personnel, respiratory protection training, and procedures affecting internal exposure control and personal assessment; determination whether engineering controls, respiratory equipment, and assessment of individual intakes meet regulatory requirements; required records, reports, and notifications, and effectiveness of management techniques used to implement these programs and experience concerning self-identification and correction of program implementation weaknesses. Audits are discussed in Section 7.

Review of selected airborne surveys showed no identification of exposures approaching the 40 MPC-hour control measure. Whole body count data was reviewed for about 3000 counts performed between January 3, 1984, and October 29, 1984, on company and contractor personnel. Several followup counts were performed on persons who showed elevated initial counts. Followup counting was adequate to verify that the 40 MPC-hour control measure was not exceeded. The highest bonafide result was 11 μCi of Co-58.

During the period May through November 1984, the whole body counter (WBC) was intermittently inoperable. During periods of WBC inoperability, the licensee collected 150 urine samples mainly from terminating personnel, and sent the samples to a contractor for analysis. This number is about 10% of the total whole body count conducted during this period. Urinalyses results received by the licensee on November 20, 1984, contained some positive results. However, the licensee's procedure is not adequate to relate the significance of these results to airborne exposure. Nor is it clear, that such a relationship can be established given the uncertainties regarding identification of the time of intake and the soluble/insoluble relationships of radioactive contaminents present in the workplace. The licensee is reviewing these results. The inspector will review the licensee's evaluation during a future inspection. (373/84-31-02(DRSS); 374/84-38-02(DRSS))

No violations or deviations were identified.

7. Audits

The inspector reviewed onsite and offsite audits of the radiation protection program conducted during 1984 to date. Extent of audits, qualifications of auditors, and adequacy of corrective actions were reviewed.

Onsite Quality Assurance Audits

Two quality assurance audits were performed. The subjects were mainly compliance with selected radiation protection procedures. Two findings and two observations were made concerning failure to perform surveys at the designated frequency, an incomplete form NRC-4, lack of required signatures on a few radiation work permits, and failure to complete dry active waste volume trending charts. Corrective actions have since been completed. The extent of the audits, qualifications of the auditors, and corrective actions appear adequate. No problems were noted.

Offsite Quality Assurance Audits

Two quality assurance audits were performed. One concerned mainly technical specification and procedure compliance; the other was the annual offsite quality assurance audit of station activities conducted on August 28-31, 1984. Included was a technical audit of rad/chem procedures and policies performed by a qualified CECo corporate employee acting as a "Technical Observer" to the audit team. One finding concerning an apparently missing radioactive source and one observation concerning apparent failure to identify an inoperable radiation detection instrument were identified. The findings and observations were corrected and closed before completion of the audits. The corrective actions appear adequate. No problems were identified.

No violations or deviations were identified.

8. Liquid Radwaste Effluent Monitor

During the inspection, the inspector was informed that the liquid radwaste effluent monitor alarmed at 2105 hours on November 27, 1984, and automatically terminated the planned release of discharge tank 2WF. According to the monitor strip chart, the alarm/trip setpoint of 2.5 E5 counts per minute (cpm)was exceeded. The monitor read 3 E5 cpm after the release was automatically terminated. Upon review of sample collection and analysis forms, and planned release documentation, the inspector noted that the monitor setpoint should have been set at 3.3 E6 cpm for this release. The setpoint had not been changed from a previous release and was therefore conservative.

The inspector reviewed releases made during the period September-November 1984 to date and discussed with the licensee the procedure used to establish and set the liquid effluent monitor alarm/trip setpoint. The inspector discovered that the setpoint was frequently not changed when the release form indicated that a setpoint change should be made. The licensee reviewed procedural requirements for establishment of the setpoint. Discrepancies between rad/chem and instrument mechanical procedures concerning setpoint responsibilities were identified in the procedural requirements. These procedural discrepancies apparently resulted in frequent failure to establish the proper setpoint for individual planned liquid radwaste releases from the discharge tanks. The actual setpoint established for release was not routinely accurately reflected on the release forms for the next release; therefore, if the setpoint was not changed for a particular release, the release form may not have correctly indicated the actual setpoint during the release.

The inspector noted that on at least one occasion (batch No. 44-84 on August 23, 1984), the setpoint on the monitor was apparently nonconservatively set because the setpoint had not been changed as required. The indicated setpoint was 7.5 E5 cpm and the required setpoint was 5.96 E5 cpm. However, because the existing setpoint from the previous release as recorded on the release form was frequently not accurate, and no setpoint change was made for a current release, the existing actual setpoint during a release could have been either conservative or nonconservative. Establishment of a nonconservative alarm/trip setpoint on the radioactive liquid effluent monitoring instrumentation channel is a violation of Technical Specification 3.3.7.10. (373/84-31-03(DRSS); 374/84-38-03(DRSS)) This matter was discussed at the exit meeting.

For releases made since August 1984, the inspector reviewed individual release calculations, dilution provided, actual and expected monitor readings, and conservatisms built into the setpoint calculations. It appears that the release limits specified in Technical Specification 3.11.1.1 have not been exceeded. However, during periods when the monitor setpoint was nonconservatively set, inadvertent releases in excess of the technical specification release limits would not have been automatically terminated.

One violation was identified.

9. Reactor Coolant Chemistry

The licensee is experiencing frequent isolations of the Reactor Water Clean Up (RWCU) systems for both reactors. Unit 1 experienced 12 isolations during 1984 through August 28 and Unit 2 experienced 26 isolations during 1984 through September 18. Individual isolation durations are as short as five minutes and as long as three hours.

The isolation actuations are caused by flow/density variations, high room temperature, room/building differential temperature, or spurious alarms of these parameters. The monitored parameters are technical specification required indications to detect RWCU leakage and provide automatic isolation. The licensee is investigating the causes of the frequent isolations and possible corrective measures.

The inspector reviewed the licensee's compliance with technical specification limits for reactor coolant chemistry and specific activity. The licensee is experiencing no problems meeting the specifications for coolant radioactive material specific activity content. However, the licensee is experiencing periods where the limits for conductivity listed in Technical Specification Table 3.4.4-1 are exceeded, putting the Unit in Action Statement 3.4.4.a. The licensee is maintaining records of hours per year when the conductivity exceeds the listed limit as required by the action statement. It does not appear that the 336 hours per year limit will be reached by either reactor during 1984.

No violations or deviations were identified.

10. Personal Contamination Event

On December 4, 1984, two stationmen were assigned to decontaminate a portion of floor area under and near a radioactive liquid sampling panel on the 761 foot level of the Unit 1 Reactor Building (RB). After completing the task, the stationmen left the RB, through a frisker station, and went to their break room in the service building. The individuals later were found to be contaminated when frisking at a different frisking station later in the day.

The inspector interviewed the two individuals and later discussed the matter with the stationman foreman. The exact cause for the two stationmen becoming contaminated and their failure to detect the contamination at the first frisking station was not determined. However, the following weaknesses were identified:

The two stationmen involved have worked at the station for less than one month. A third stationman worked with the two on the decontamination task; he had worked at the station for four months. None of the three had received stationman training; the training consists of one week of formal training concerning decontamination methods, laundry, establishing change areas, and handling of shielding.

There are 41 persons in the stationman department. Of the 41, 23 have worked at the station for less than six months and only 11 have received stationman training.

There is only one supervisor and one temporary supervisor to direct and observe the activities of the stationmen.

The inspector discussed with the licensee the apparent need to provide better training to and/or increased supervisory oversight of stationmen. This matter was discussed at the exit meeting and will be further reviewed during a future inspection. (373/84-31-04(DRSS); 374/84-38-04(DRSS)

The inspector reviewed the response of health physicists and radiation protection personnel to this incident. Areas visited by the contaminated individuals were properly surveyed, contaminated furniture and equipment were identified and decontaminated, and a followup investigation was in progress. The licensee's followup of the incident was good.

No violations or deviations were identified.

11. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on December 4, 1984, and discussed certain matters by telephone with Mr. Bishop and others on December 12, 1984. The inspector summarized the scope and findings of the inspection. In response to items discussed by the inspector, the licensee:

a. Acknowledged the item of noncompliance concerning the liquid radwaste monitor setpoint. (Section 8)

b. Acknowledged the inspector's comments concerning the need to provide additional methods of assuring high radiation area access control. The licensee stated that several options are being considered including technical specification changes. (Section 5)

c. Acknowledged the inspector's comments concerning the need to provide shielding for certain friskers in the Unit 1 Reactor Building. The licensee stated that their current investigation into the matter would be expedited. (Section 5)

d. Acknowledged the inspector's comments concerning stationman training/supervision. The licensee stated that their proposed corrective action is to increase stationmen supervision to three full-time foreman and to provide a one-time special training class for stationmen to be conducted by rad/chem personnel. The licensee also stated that the need for additional long-term corrective actions is being evaluated. (Section 10)