U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/84-24(DRSS); 50-374/84-31(DRSS)

Docket Nos. 50-373; 50-374 Licenses No. NPF-11; NPF-18

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

Facility Name: LaSalle County Nuclear Station, Units 1 and 2

Inspection At: LaSalle County Site, Marseilles, IL

Inspection Conducted: September 18-20, 1984 (at plant site)
September 25, 1984 (by telephone with plant personnel)
September 26, 1984 (by telephone with corporate personnel)
October 12, 1984 (by telephone with corporate personnel)

Inspector: M. J. Oestmann M. Schumacher for 10/23/84
Date

Approved By: M. C. Schumacher, Chief M. Schumacher 10/23/84
Independent Measurements and Date
Environmental Protection Section

Inspection Summary

Inspection on September 18-20, 25, 26, and October 12, 1984 (Reports No. 50-373/84-24[DRSS]; 50-374/84-31[DRSS])
Areas Inspected: Special announced inspection of implementation of 10 CFR Part 20 and 10 CFR Part 61 requirements for disposal of low-level radioactive wastes, including management controls, quality control, tour of the facility, and implementation of waste form and waste classification requirements. The inspection involved 23 inspector-hours onsite by one NRC inspector.
Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

[1]R. Bishop, Assistant Superintendent, Administrative and Support Services
F. Lawless, Rad Chem Supervisor
[1]R. Kyrouac, Quality Assurance Supervisor
[1]S. Shields, Quality Assurance Inspector
R. Sneeds, Quality Assurance Inspector
[1]L. Aldrich, Lead Health Physicist
J. Andrews, Radwaste Shipping Coordinator
[1,2]S. Davis, Radwaste Coordinator
P. Nottingham, Lead Chemist
D. Marsh, Health Physicist
[3]R. Coley, Supervisor, Chemistry and Radwaste Services, Technical Services Department, Nuclear Station Division, Corporate Headquarters

[1]D. Evans, NRC Resident Inspector
M. Jordan, NRC Senior Resident Inspector

The inspector also contacted other Health Physics and Radwaste personnel during this inspection.

[1]Present at the exit meeting on September 20, 1984.
[2]Present during telephone conversation on September 25, 1984.
[3]Present during telephone conversation on September 26, and October 12, 1984.

2. Management Controls and Organization

The inspector reviewed the administration and management of the licensee's radwaste program. Program responsibilities are defined in Administrative Procedure LAP-100-16, "Radioactive Waste Shipments", dated December 12, 1983, and Corporate Procedure QP 13-52, "Preparation and Shipment of Radioactive Material", dated November 17, 1983. Responsibilities are spread among the Senior Operating Engineer, Shift Engineer, Health Physicists, and Quality Assurance Inspectors. These procedures, including accompanying checklists used during inspection of radwaste packaging and shipment, are being revised to include the requirements of 10 Part CFR 61 and 10 CFR Part 20.311 and will be approved by management by December 1, 1984. This item will be examined in a future inspection. (Open Item 50-373/84-24-01; 50-374/84-31-01)

The Corporate Supervisor for Chemistry and Radwaste Services, under the Technical Services Manager, provides guidance and technical direction to the nuclear stations in implementing the 10 CFR 61 and 10 CFR 20.311 radwaste requirements.

No violations or deviations were identified.

3. Quality Assurance and Quality Control Program

The licensee's radwaste procedures (LRP 1520-1 through LRP 1520-9), implemented by the Rad/Chem Department, have been revised to comply with the requirements of 10 CFR Part 61 and 10 CFR Part 20.311 applicable to low-level radwaste classification and manifest preparation. Most of these procedures were approved in January 1984. These procedures were found to be adequate except there is no specific procedure for preparing manifests, labeling packages, and providing shipment tracking as required by 10 CFR Part 20.311. In addition, Procedure LRP 1110-1, "Maintenance of Radiation Records", dated April 7, 1982 describes the records kept on radwaste but no mention is made of keeping records of manifests. This matter was discussed with the licensee who agreed to revise these procedures by December 1, 1984 to include this information. This item will be examined in a subsequent inspection. (Open Item 50-373/84-24-01; 50-374/84-31-01).

The inspector noted that Procedure LAP 200-6, "LaSalle County Station Process Control Program", dated December 29, 1983, which describes the Stock Equipment Company solidification process, was revised to include the requirements of 10 CFR Part 61. The inspector reviewed this procedure and also Procedures LOP-WX-01 through 19 and LOS-WX-SRI which implement the Processs Control Program (PCP) but found no information concerning waste form stability testing. This was discussed with licensee representatives onsite during the inspection and by telephone afterwards on September 25-26, and October 12, 1984 and with a representative at the NRC Office of Nuclear Materials Safety and Safeguards (NMSS). It was confirmed that the solidification vendor (Stock) had submitted its program for stability testing of its product to the NRC and had received comments on it. Licensee representatives stated that the licensee, as a member of the Stock system user's group, has so far been kept abreast of the progress being made although, in a commercial dispute with Stock, it has refused to pay for it. To date, the licensee has shipped no Class B or C waste. The licensee is aware that Class B or C wastes would have to be shipped in High Integrity Containers if the stability requirements are not met.

The inspector determined that the licensee has established an adequate QA/QC program to assure compliance with waste classification of 10 CFR Part 61 and manifest requirements of 10 CFR Part 20.311. The licensee's QA/QC inspectors review and checkoff the checklists to the LAP 100-16 procedure and corporate QP 13-52 procedure on each package prior to shipment of radwaste to the burial site. The NRC inspector identified no problems during review of manifests which accompanied shipments to Hanford, Washington, and Barnwell, South Carolina during 1984.

No findings or observations were identified in a QA audit conducted on May 31, June 1 and 4, 1984 by the licensee's QA Department to comply with the requirements of 10 CFR Part 61 and 10 CFR Part 20.311.

No violations or deviations were identified.

4. Waste Classification and Waste Form

The inspector reviewed the status of the licensee's implementation of the requirements of 10 CFR Part 20 and 10 CFR Part 61 applicable to low-level radwaste classification, waste form, and stabilization. The licensee has made 46 shipments for the period of December 27, 1983 (the effective date of new regulations) to mid August 1984, primarily to the U.S. Ecology burial site in Richland, Washington.

Radwaste media consists of evaporator bottoms, spent resins, dry active waste (DAW), and waste sludge. Bead resins, evaporator bottoms and waste sludge are solidified in 55 gallon drums using a Portland-type 3 cement in the Stock Equipment Solid Radwaste System. Solidification formulas for the different types of waste are presented in procedure LAP 200-6. Two other waste media - Reactor Water Cleanup (RWCU) Phase Separator sludge and Ultrasonic Resin Cleaner (URC) sludge have not been shipped to date but may be in the future. The Stock Equipment System would be used for their solidification. The licensee agreed to sample these latter two wastes and analyze them for classification purposes when they are available. This item will be examined in a future inspection. (Open Item 50-373/84-24-02; 50-374/84-31-02)

DAW, including filter cartridges, is compacted in 55 gallon drums using a high pressure compactor or shipped in LSA boxes.

In addition to the 55 gallon drums, the licensee uses an 83 gallon overpack for additional containment. To date the licensee has shipped only Class A wastes and has had no need to use high-integrity containers (HIC). These may be used to supplement the present system, if required, for shipping Class B or Class C radwaste in the future.

In determining the required waste classification, the licensee used initially the correlation factors suggested by the AIF/NESP Report, "Methodology for Classification of Low-Level Radioactive Waste from Nuclear Power Plants", dated November 1983. These correlation factors were used to determine concentrations of difficult to measure radionuclides such as transuranics and beta emitters. The licensee has since modified the AIF correlation factors based on analytical results recently obtained from Science Application, Inc., a contractor who analyzed a set of samples taken from the LaSalle evaporator bottoms, spent resins; smears (DAW), and waste sludge tank. The results include analysis of gamma and beta emitters and transuranics required by 10 CFR Part 61.55. The licensee plans to sample its radwaste media on an annual basis to verify the correlation factors used for classification. Whenever possible, the analytical results are used to correlate the activities of pure alpha and beta emitters to gamma emitters that can be measured more easily at the plant. The licensee implements procedure LRP 1520-6, "Curie Content of Common Radiation Shipping Containers", dated January 25, 1984, and LRP 1520-8, "Determination of Waste Classification for Radioactive Waste Shipments", dated January 17, 1984, to determine waste classification.

Radwaste is classified by summing the dose at contact at the top, bottom, and sides of the 55 gallon drum and using dose to curie conversion factors

to obtain the total activity in the container. The total curie content is partitioned based on gamma analytical results of samples taken. Suitable correlation factors are then applied for the difficult to measure radionuclide concentrations. Numerical calculations and classifications are currently performed by hand but a health physicist has just developed an in-house computer program for this purpose.

The inspector toured the radwaste facility and identified no problems. Overall performance of the process control program appeared to be adequate.

No violations or deviations were identified.

5. Shipping Manifests/Tracking

The inspector examined manifests and records for the radwaste shipments made since the new regulations went into effect. All shipments appeared to have been properly classified and all required paperwork was present. The inspector noted that QA representatives inspect every shipment of radwaste and complete a QA checklist. Currently approved procedures need to be revised to explicitly address manifest preparation and shipment tracking as discussed in Section 3. The Radwaste Coordinator is aware of the new requirements and current practices appear to have satisfied these requirements.

No violation or deviations were identified.

6. Exit Meeting

The inspector reviewed the scope and findings of the inspection with licensee representatives (Section 1) on September 20, 1984. In response to inspector comments licensee representatives agreed to the following actions:

a. Revise radwaste procedures and associated checklists to include explicit requirements for waste classification, manifest preparation, labeling of packages, and shipment tracking contained in 10 CFR Part 61 and 10 CFR Part 20.311 (Sections 2 and 3).

b. Send additional samples, when available, from all other radwaste media for analysis, to demonstrate applicability of correlation factors and concentrations generated from analysis of samples (Section 4).