

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/84-21(DRSS); 50-374/84-27(DRSS)

Docket Nos. 50-373; 50-374

Licenses 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: August 21-24, 1984

*D. E. Miller*  
Inspector: D. E. Miller

*9-13-84*  
Date

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

*9/13/84*  
Date

Inspection Summary

Inspection on August 21-24, 1984 (Reports No. 50-373/84-21(DRSS); 50-374/84-27(DRSS))

Areas Inspected: Routine unannounced operational inspection of general orientation training; contamination controls; filter systems drains; and postimplementation review of NUREG-0737 Task Item II.F.1.2. The inspection involved 39 inspector-hours onsite.

Results: No violations or deviations were identified.

## DETAILS

### 1. Persons Contacted

- \*L. Aldrich, Lead Health Physicist
- \*R. Bishop, Assistant Superintendent, Administrative and Support Services
- \*G. Diederich, Station Superintendent
- W. Eisele, Health Physicist
- D. Hiegelke, ALARA Coordinator
- \*W. Huntington, Technical Staff Supervisor
- \*F. Lawless, Rad/Chem Supervisor
- J. Lewis, Health Physics Coordinator
- \*W. Luett, Technical Staff Engineer
- S. Seaborn, Training Instructor
- D. Marsh, Health Physicist
- \*J. Schuster, Chemist

\*D. Evans, NRC/Resident Inspector

\*R. Greger, NRC/RIII

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

\*Denotes those present at the exit meeting.

### 2. General

This inspection began at 8:00 a.m. on August 21, 1984 with attendance at NGET training. The inspection was conducted to review NGET, contamination controls, filter system drains, and to perform postimplementation review of NUREG-0737 Task Item II.F.1.2. Several matters concerning this task item needs licensee action. No other significant regulatory matters were noted.

### 3. Nuclear General Employee Training (NGET)

The inspector attended an initial NGET class, and reviewed training subjects taught to determine if requirements were met.

The training was mostly slide/oral presentation; the subjects included nuclear security, industrial safety, quality assurance/control, and radiation protection, including biological effects. Each attendee was required to don protective clothing and demonstrate proper clothing removal techniques at a simulated step-off-pad area. A test was administered at the end of training; a passing grade of 70% is required. Training time, not including breaks, was about six hours.

The oral presentation was good. The training appears to meet the requirements of 10 CFR 19.12. No problems were noted.

No items of noncompliance or deviations were identified.

#### 4. Contamination Controls

The inspector reviewed the licensee's methods of radioactive contamination surveillance, decontamination of facilities, and recent experience concerning contamination of personal clothing and skin.

The licensee recently revised LRP-1140-1, "Routine Surveys", to shift the emphasis of the contamination survey program to those areas which are more likely to become contaminated. The procedure calls for more frequent survey of areas having high probability of change because of work being performed or of coolant leakage. Radiation protection foremen assigned to back shifts perform nightly tours of designated areas to review posting/zoning and area cleanup and decontamination needs; the foremen make out plant inspection lists concerning these needs and forward the lists to the ALARA Coordinator. Also, health physicists make unscheduled controlled area tours, and document identified needs on plant inspection lists. The inspector reviewed selected plant inspection lists; they appear to be beneficial.

During day shift five days a week, one rad/chem technician and four stationmen are assigned to posting/zoning maintenance and area/equipment decontamination; the ALARA Coordinator is assigned the task of coordinating the activities of the technician and stationmen. According to the ALARA Coordinator, postings and contaminated controls have been improved.

The licensee's program for personal decontamination was reviewed. Decontamination is performed in accordance with LRP-1470-6 "Personnel Decontamination" and recorded on a "Personnel External Contamination Record". Review of these records showed that about 150 skin and/or personal clothing contamination incidents were recorded from April 1, 1984, to date. In most of these incidents, the contamination was easily removed with soap and water washing. A few incidents required use of stronger skin decontamination agents (potassium permanganate). No offsite decontamination treatment was required.

There was no obvious pattern of recurrences by individuals, type of job, or location; however, the frequency of occurrence appears inordinate. The licensee stated that they are trending personal contamination incidents in an attempt to identify possible causes of the frequent contamination incidents; no conclusions have yet been drawn by the licensee. This matter will be further reviewed during a future inspection (Open Item 373/84-21-01; 374/84-27-01).

The inspector reviewed internal contamination followup for skin contamination incidents where intakes appeared likely. Followups were adequate. No indications of uptakes in excess of the 40 MPC-hour action level were noted.

No violations or deviations were identified.

5. Engineered Safety Feature (ESF) Filter System

There are three ESF filter systems at the station, two standby gas treatment (SBGT) systems, and a control room HVAC emergency makeup air system. The inspector selectively reviewed one SBGT system to determine if provisions are made for decay heat cooling, fire prevention, and liquid drainage.

A standby cooling air fan is provided for each SBGT train to remove heat generated by decay of fission products on the HEPA filters and charcoal adsorbers after shutdown. Under worst cases, the FSAR states the fan should limit the temperature rise to 50°F maximum, and prevent possible desorption of halogens from the charcoal.

Two deluge valves in parallel, connected to the fire protection system, are mounted outside the charcoal adsorber. A high temperature detector actuates an alarm in the control room; the alarm is set at 250° F. An operator must actuate the deluge valves from the control room.

There are two drains from each SBGT train; one under the demister and one under the charcoal adsorber. The drains, which contain loop seals, are hard piped to a reactor building sump thereby minimizing the possibility of airflow bypass of the filters and adsorbers or contamination of the floor areas near the drains.

No violations or deviations were identified.

6. Postimplementation Review of NUREG-0737 Task Item II.F.1.2

On page 22-81 of NUREG-0519, LaSalle County Safety Evaluation Report, it is stated that a post-implementation review of the installed radioiodine and particulate sampling and analysis system will be performed; the inspector began the review during this inspection.

Table II.F.1-2 states that the equipment must be capable of collecting representative samples of particulates and iodine in plant gaseous effluents during and following an accident. The purpose is to quantify releases of radioiodines and particulates for dose calculation and assessment. The licensee presented test information which demonstrated that the sampling systems for the station vent and SBGT effluent pathways are isokinetic; however, the licensee has apparently not evaluated the line loss characteristics for their sampling systems. The licensee currently assumes 100 percent transport to the particulate and iodine samplers. Based on testing done at other Region III stations and theoretical information on iodine transport, the licensee's assumed 100 percent transport appears nonconservative. The inspector discussed with the licensee, during the inspection and at the exit meeting, the need to establish collection efficiencies (representativeness of sampling) as specified in Task Item II.F.1.2. The inspectors stated that the need for heat tracing of sampling lines, to preclude iodine plateout, should be included in any study to determine collection efficiencies.

Table II.F.1-2 states that the design basis shielding envelope for the particulate and iodine samplers should be based on 100 uCi/cc sample concentration, 30 minutes sample time, and average gamma energy of 0.5 MeV. The licensee did not have information readily available that indicated the shielding design for the accident condition particulate and iodine samplers. This matter was discussed at the exit meeting.

Clarification (2) of Task Item II.F.1.2 states that the sampling system design shall be such that plant personnel can remove samples, replace sampling media, and transport the samples to the onsite analysis facility with radiation exposures that are not in excess of the criteria in GDC 19 of 5 rem whole body exposure and 75 rem to the extremities during the duration of the accident. The licensee stated that, to their knowledge, a study to demonstrate compliance with Clarification 2 had not been performed. The inspectors discussed with the licensee the need to complete the study, if not already completed. This matter was discussed at the exit meeting.

The inspector informed the licensee that if it is determined by study or testing that a criterion of NUREG-0737 is not met, the condition should be corrected or a formal request for deviation from the criterion be made to NRR.

During a telecon on September 5, 1984, the licensee stated that studies to determine the representativeness of the station vent and SBTG particulate and iodine effluent sample collection, whether the collectors meet the shielding design requirements, and compliance with GDC-19 for sample collection and handling, would be performed (Open Item 373/84-21-02; 374/84-27-02). The anticipated completion dates are listed in Section 7.

## 7. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) on August 24, 1984, and by telecon with Mr. Lawless on September 5, 1984. The inspectors summarized the scope and findings of the inspection. In response to certain matters discussed, the licensee:

- a. Acknowledged the inspector's comments concerning frequency of personal contamination incidents, and stated that they will continue to investigate the matter. (Section 4)
- b. Stated that a study of representativeness of iodine and particulate sampling of the normal and accident range station vent and SBTG samplers will be performed by March 1, 1985 (Section 6).
- c. Stated that a study of accident range particulate and iodine sampler shielding design (required by NUREG-0737, Table II.F.1-2) would be performed by March 1, 1985 (Section 6).
- d. Stated that a study to determine compliance with Clarification (2) of NUREG-0737 Task Item II.F.1.2 would be performed by March 1, 1985 (Section 6).