U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-295/81-02

Docket No. 50-295 License No. DPR-39

Licensee: Commonwealth Edison Company
P. O. Box 767
Chicago, IL 60690

Facility Name: Zion Station, Unit 1

Inspection At: Zion Site, Zion, IL

Inspection Conducted: February 18-20 and 24-26, 1981

Inspectors: D. E. Miller for 3/9/81

P. C. Lovendale for 3/9/81

Approved By: L. R. Greger, Acting Chief 3/9/81
Facilities Radiation
Protection Section

Inspection Summary:

Inspection on February 18-20 and 24-26, 1981 (Report No. 50-295/81-02)
Areas Inspected: Routine, unannounced inspection of operational radiation protection program during refueling outage, including staffing, advanced planning and preparation, training, exposure control, posting and control, material control, and independent measurements. The inspection involved 65 inspector-hours onsite by two NRC inspectors.
Results: No items of noncompliance were identified.

1. Persons Contacted

*K. Graesser, Superintendent
*L. Soth, Operating Assistant Superintendent
*G. Pliml, Administrative and Support Services Assistant Superintendent
*T. Lukins, QC Supervisor
*P. Kuhner, Quality Assurance
*B. Harl, Quality Assurance
*D. Howard, Radiation Protection Supervisor
*R. Aker, Health Physicist
*F. Rescek, Station Health Physicist
F. Ost, Health Physicist

*J. Waters, NRC Resident Inspector

The inspectors also contacted several other licensee employees including, Rad/Chem Foreman, Rad/Chem Technicians, Engineering Assistants, and members of the technical and engineering staffs.

*Denotes those present at the exit interview.

2. General

This inspection, which began at 8:00 a.m. on February 18, 1981, was conducted to examine radiological aspects of the unit 1 refueling and maintenance outage. The inspectors performed independent surveys and reviewed radiation controls and postings during tours of the licensee's radiologically controlled plant areas. Housekeeping and cleanliness were good considering the extent of the maintenance outage. Both security and health physics were maintaining control of containment access. Radiological conditions appeared satisfactory.

3. Rad/Chem Department

3.1 Staffing

Since previously reported in IE Inspection Report 50-295/80-12; 50-304/80-12, the following organizational changes have been made:

a. Former Chemist, B. Schramer, was promoted to Station Chemist replacing S. Guruanthan, who transferred to the station's Radwaste group.

b. One Chemist transferred from Zion to the corporate (CECo) office and was replaced by a Chemist from the corporate office. Also, a recent college graduate has been employed as a Chemist. Total chemist staffing is unchanged, consisting of a Station Chemist and three Chemists.

c. Four additional Rad/Chem Technicians (RCT) positions have been filled bringing RCT staffing to 26.

The inspectors observed that Health Physicists are apparently burdened with duties, such as review of dosimeter and film badge dose totals to approve extensions of administrative limits, which could be performed by someone other than a professional. Performing these administrative duties diminishes the time available to perform more important managerial tasks such as review and assessment of radiation controls for jobs. This matter was discussed with licensee management during the inspection and at the exit interview.

No other matters of concern were identified.

3.2 Qualifications

a. The newly appointed Station Chemist appears to meet the Radiochemist criteria specified in Section 4.4.3 of ANSI N18.1-1971 as required by Technical Specification 6.1.D.

b. As previously discussed in IE Inspection Report 50-295/80-12; 50-304/80-12, it appears that the Rad/Chem Supervisor does not meet the RPM criteria specified in Regulatory Guide 1.8, dated September 1975. The Senior Health Physicist does meet these criteria. A letter requesting a technical specification change was sent to NRR on May 30, 1980. The revised technical specification would permit either the Rad/Chem Supervisor or the Senior Health Physicist to meet the RPM criteria instead of the current requirement that the Rad/Chem Supervisor be so qualified. This matter is considered unresolved pending NRR review of the licensee's request.

No items needing corrective actions were identified.

3.3 Facilities

The Rad/Chem Department office area at access control has been expanded and reorganized to improve working conditions. Additional divider walls, on order, should further improve the working environment for department professionals and assistants. A sliding window has been installed between the office area and the auxiliary building entry hallway. Dosimetry issue and work permit business is conducted through the window, thereby reducing the congestion in the office. These changes represent significant improvement over the conditions existent during the Health Physics Appraisal.

3.4 Contract Health Physics Technician Qualifications

Early in the current outage, a conflict arose between the station and the contractor supplying outage health physics technicians concerning qualification requirements for contract technicians. Several contract technicians were released because they were not considered qualified by the licensee. The contractor was unable to supply additional technicians. Several of the remaining contract technicians were released when their radiation dose approached regulatory limits. During the week of January 26, 1981, the station changed contractors because of the contractor's inability to meet the station needs. The need to establish better methods for judging the acceptability of incoming contract health physics technicians was discussed at the exit interview.

4. ALARA

The first meeting of the newly formed ALARA Committee was held September 5, 1980; subsequent meetings were held bimonthly. The committee is composed of the Station Superintendent, three Assistant Superintendents, the Rad/Chem Supervisor, and a Health Physicist. The committee has selected several specific jobs for detailed review in an attempt to reduce exposures for future similar work. The reviews are to continue with additional jobs being added as reviews are completed. In addition, the licensee has contracted a consultant to perform an independent ALARA review and recommend possible methods of dose reduction. Also, the radiation work exposure permit system has been expanded to provide better information on dose received for specific tasks.

The inspectors noted that health physics guidance for steam generator work is written in general terms and does not specify requirements such as dosimetry, respiratory equipment, or clothing. During records review and discussions with licensee personnel, the inspectors learned that several events involving failure to follow good health physics practices had occurred while performing steam generator work. This work is normally monitored by contract health physics technicians. The inspectors discussed the desirability of providing more detailed procedures for infrequently performed high exposure tasks, particularly those supported by contract technicians.

5. Access and Contamination Control

Access and contamination controls have improved significantly since the last inspecton.[1/] Three personnel doors (one on 617' elevation

1/ IE Inspection Report No. 50-295/80-12; 50-304/80-12.

and two on 592' elevation) and a large equipment door (592' elevation) are now locked and may be used only for emergency exit unless cleared through radiation protection. All persons must enter and exit the controlled area through the access control point on the 617' elevation adjacent to the Radiation/Chemistry office. This action appears to have reduced the amount of contaminated material leaving the auxiliary building, as evidenced by surveys conducted by the inspectors in clean areas of the plant (Section 7).

In addition to reducing the number of access points, the licensee has installed a sensitive portal monitor adjacent to the Radiation/Chemistry office. All personnel are required to exit through this monitor when leaving the controlled area. Preliminary data indicates that this monitor will detect contamination levels of about 2.5 nanocuries, depending on the location on the body. The licensee has also installed one of these monitors in the gatehouse. The gatehouse monitor is more sensitive since background radiation levels are lower.

No items of noncompliance were identified.

6. Exposure Control

6.1 External

The licensee's film badge and pocket dosimeter records from March 1980 to date were reviewed. No exposures exceeding 10 CFR 20.101 limits were noted.

A selective review of records for individuals who received greater than 1250 mrems during a quarter indicated that the licensee had completed NRC-4 forms for these individuals.

The occupational exposure records system was found to be seriously deficient during the last inspection. 2/ Historical record centralization and error omission documentation continue to need improvement. This matter will be reviewed further during future inspections.

No items of noncompliance were identified.

6.2 Internal

Whole body counting data for 1980 and 1981 to date were reviewed. No body burdens indicative of an exposure greater than the 40 MPC-hour control measure were noted. Several repeat counts on individuals were necessary to show that the control measure was

2/ Ibid.

not exceeded. Station personnel who work in controlled areas are routinely whole body counted. Contract employees who are expected to use respirators are normally whole body counted both when they begin work at the site and upon termination.

No items of noncompliance were identified.

7. Independent Measurements

The inspectors conducted area radiation surveys in the auxiliary building using an NRC instrument. The results compared favorably with a recent licensee survey.

The inspector conducted a survey of all tools and equipment in the machine shop and maintenance tool crib. No significant contamination was found.

8. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item is discussed in Section 3.2.b.

9. Exit Interview

The inspectors met with licensee representatives (denoted in Section 1) on February 20, 1981. The following items were discussed.

a. The purpose and scope of the inspection.

b. The administrative workload placed on Health Physicists during outage conditions (Section 3.3).

c. The need to establish better methods for judging the qualifications of incoming contract health physics technicians. The licensee stated that each contract technician will be interviewed by the Health Physicist to help determine their qualifications (Section 3.4).

d. The desirability of providing detailed procedures for infrequently performed high exposure jobs, particularly those supported by contract health physics technicians. The licensee stated that their procedures will be reviewed and new guidance added (Section 4).

e. The improvements noted in the area of access and contamination control (Section 5).