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

REGION V

Report No. 50-206/79-11

Docket No. 50-206 License No. DPR-13 Safeguards Group

Licensee: Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, California 91770

Facility Name: San Onofre Unit 1

Inspection at: Camp Pendleton, California

Inspection conducted: July 23-27, 1979

Inspectors: F. A. Wenslawski 9/4/79
J. R. Curtis, Radiation Specialist Date Signed

Date Signed

Date Signed

Approved By: H. E. Book 9/5/79
H. E. Book, Chief, Fuel Facility and Materials Safety Branch Date Signed

Summary:

Inspection on July 23-27, 1979 (Report No. 50-206/79-11)
Areas Inspected: Routine, unannounced inspection of the operational radiation protection program, including the present status and changes in the organization, training and qualification, and procedural guidance of the program. Records and reports of surveys, personnel dosimetry and other records related to the program were examined and discussed. Followup on licensee action related to IE Circular 79-09 was investigated. Independent surveys were made during a tour of the auxiliary, waste handling, and decontamination areas. The inspection involved thirty-five hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

J. Curran, Plant Manager
*R. Brunet, Superintendent, Unit 1
*M. Sullivan, Chemical and Radiation Protection Supervisor, Unit 1
*D. Bihl, Chemical and Radiation Protection Engineer, Unit 1
B. Collins, Chemical and Radiation Protection, Unit 1
*J. Dunn, Quality Assurance, Unit 1
*G. MacDonald, Quality Assurance, Unit 1
J. Tate, Watch Engineer, Unit 1

Other members of the SONGS staff.

*Denotes those present at the exit interview.

2. General Conditions

The plant was operating at fully licensed power throughout the inspection period except for one two-to-three hour period one evening when a planned reduction in power was executed. No unusual occurrences were observed or reported to the inspector during the inspection.

3. Radiation-Protection Operations

a. Organizational Changes

The chemical and radiation protection organization is under the direction of Mr. M. Sullivan, Supervisor. The normal staff complement for SONGS-Unit 1 operation includes the supervisor, three staff health physics engineers, one engineering aide, one chemical and radiation protection technician foreman and seven technicians. Recently two staff engineers, the technician foreman, and three technicians have left the SONGS-1 staff, transferring to other positions at the station, to SCE headquarters, or have taken positions outside the utility. Duties assigned to those who recently vacated positions have been temporarily assigned or shifted to the existing staff; a senior technician was named to the position as chemical and radiation protection foreman. The impact of these personnel changes on the program was discussed with the supervisor and with other SONGS-1 management personnel. The supervisor was optimistic about filling the vacancies soon and was actively recruiting. He was confident that the shifts and transfers of duties would be accomplished without negative impact on the program. No long term, high work load outages such as refueling outages are scheduled in the near future, and this period will give newly hired personnel time for on-the-job familiarity training.

b. Licensee Audits

The licensee has an active quality assurance program with formal audit schedules, surveillance checks, and extensive reporting and corrective action record systems. In the radiation protection area, nine audits of technical specification and regulatory requirements and fifteen surveillance checks of procedural requirements were made since the last inspection of this area. Deficiencies that were identified in this process were documented and corrective action requests (CAR's) were issued. Records of audits and corrective action request documentation were inspected. Results of some corrective actions were observed and the status of others was discussed with appropriate SCE management representatives.

c. Training

The inspector examined results of recent QA audit of overall training requirements and programs. The audit identified a failure to meet internal procedural requirements for chemical and radiation protection training. The procedure called for weekly training or retraining sessions for technicians which was not being met. Corrective action included review of procedural requirements and resulted in a change to biweekly scheduling of training sessions except under conditions of having an unusual work load such as refueling outages. A training supervisor was appointed with responsibility to maintain the schedule of technician training. There has been marked improvement in the frequency of conducting training sessions in the past four months.

The inspector attended a one-hour session on Bioassay and Internal Dosimetry presented by one of the chemical and radiation protection engineers. The topic, content and participation by the staff was considered adequate and consistent with the training programs objectives.

The inspector discussed radiation protection training and retraining of reactor operators and watch engineers to qualify as radiation protection personnel. The discussion was held with the plant supervisor and the watch engineer training coordinator. A specific item discussed was the extent to which "hands-on" training sessions were given for using radiation protection equipment such as survey meters and air sampling devices. Licensee representatives indicated that operators had training and hands-on experience with some equipment and that recent management discussion on this topic resulted in plans to expand the training program to include a special session stressing "hands-on" experience with radiation monitoring and air sampling equipment and with related procedures for surveys and monitoring. (79-11-01)

d. Radiation Protection Procedures

There are 44 formalized radiation protection procedures, and some 30 related laboratory, emergency response, and environmental monitoring procedures in use at SONGS-1. Thirty-six of the 44 radiation protection procedures have been reviewed and approved by the appropriate review group since the last inspection of this item. The status and schedule for review and approval of all station procedures has been recently incorporated in a computerized system that provides a periodic printout reflecting the review and approval status of the various categories of procedures and on a separate sheet, identifies procedures that have not been reviewed for 22 months or more. The latest printout indicated that two radiation protection procedures were in that category. Managerial and supervisory personnel use this system to schedule periodic review of their procedures. The chemical and radiation protection supervisor assigns the responsibility for review of each procedure to staff members as they become due for biannual review. The revised procedure is submitted to the On-Site Review Committee for approval and consistency with technical specifications and regulatory requirements.

e. Instruments and Equipment

A sampling of portable survey instruments was examined; labels indicating calibration dates revealed that instruments were recently calibrated. The utility has a computerized "tickler" system for notification of due dates for instrument maintenance and calibration. The inspector toured the auxiliary building and surrounding area with a member of the chemical and radiation protection staff. Sources facilities and equipment for calibration of survey instruments and pocket dosimeters were identified.

The licensee reported difficulty getting repair parts for their F&H Teletectors; orders had been placed to replace these with a more advanced, similar type of instrument for "remote" monitoring at distances up to approximately eight feet. The inspector and a licensee representative experienced difficulty with three separate "frisker" type instruments during the inspection tour. The licensee representative exchanged the malfunctioning instrument and reported the problems to the person responsible for maintenance and repairs. The problems appeared to be either marginal battery power supply or intermittent probe malfunction. Management was advised of the difficulty at the exit interview.

f. Exposure Controls

External exposure records and dosimetry reports were examined and discussed with the responsible licensee representative. The licensee utilizes Landaur dosimetry service and also maintains an in-house TLD badge system to provide a quick system of dose evaluation when needed. Generally, exposures were low for periods of routine operations. The magnitude of exposure and number of persons exposed increased during outages when inspection, repair and maintenance activity necessitates entry into areas of significant radiation levels. The licensee maintains a sophisticated computer program for personal dose compilation, using self reader and TLD dosimeter results for preliminary data and control and monthly outside contractor dosimetry results used for official documentation of exposure dose. Exposure records for the period of January 1978 to June 1979 were examined. Results were consistent with those tabulated and reported in the SONGS-1 Occupational Exposure Report-1978 and NRC-5 type summary records.

The highest exposure identified for 1978 was 1880 mRem per quarter and 3050 mRem per year for an SCE employee who regularly performs equipment maintenance operations during outages. Written approval by increasing levels of supervision is required to exceed intermediate exposure dose levels up to 2200 mRem per quarter. Records generated in applying this approval system were examined. The system is effective in requiring supervisory cognizance of employees' exposure levels as they approach the quarterly limit. Its use as an element in SCE's ALARA program was discussed with licensee management at the exit interview.

The licensee has employed computer based techniques to the data accumulation, record keeping and report issuance aspects of their personnel dosimetry program. Examination of records and discussions with licensee representatives responsible for this aspect of the program show it to be a valuable and effective tool when properly programmed and maintained.

g. Internal Exposure Evaluation

The licensee has made improvements in its program for whole body counting (WBC) and other bioassay techniques, principally urine analysis. Procedures have been developed establishing a basis for scheduling whole body counting and urine analysis. Bioassay procedures are formally prescribed for persons using respiratory protective equipment during entry to potential airborne radioactivity areas and for persons who, when exiting the controlled area, discover personal contamination that is not readily removable with standard washing or showering techniques. Records of whole body count results indicate that this sensitive technique has detected individual cases of possible skin contamination or internal disposition. Analysis of counting data and calculation of radioactivity quantities

is provided by the WBC supplier, Helgeson and Company. Evaluation of the probable site of skin contamination or internal deposition and the resultant personal doses have been performed by a chemical and radiation protection staff engineer. Based on the discussion of results with the individual responsible for dose evaluations, the body burden assignments and resultant personal dose assignments to date have been small fractions of "permissible" body burden limits.

Persons showing positive whole body counting results have either become externally contaminated or have had some internal deposition while performing inspection, maintenance or repair work during outages. Many showed significant drops in the activity detected after single or repeated showers.

The inspector discussed the whole body counting program results with licensee representatives as a useful tool to focus more attention on the protective clothing and contamination control programs during outages in line with commitment to ALARA principles.

h. Posting and Control

The inspector and a licensee representative toured areas within the controlled area including the auxiliary building, decontamination, and solid waste handling areas. Areas and containers were generally well posted with appropriate signs. High Radiation Areas in the auxiliary building have alarmed gates that give local visual and audible alarms when gates are opened and give remote indications of entry in the control room. The gates have hasps and locks using limited issue keys, and are normally locked. On the occasion of the tour, two gates were not locked. The licensee representative advised the control room of this condition via an in-house phone system located adjacent to the gates, and advised the control room that we would be entering the gated areas and activating the alarms. Additional signs and barriers were noted inside these controlled areas to identify areas of potentially high dose rates. The gates were locked upon exiting the areas and management was advised of the finding. The locks are an additional portion of the control system using local and remotely alarmed gates on entrances to these potentially high radiation areas.

i. Surveys

A sampling of reports of daily, weekly, and special surveys was examined. Results appeared consistent with expected conditions and with previous surveys. Air monitoring and survey information is generated to assess general radiological conditions and potential hazards. Records reflected that when unusual contamination levels are detected they are decontaminated and re-smeared. Special neutron and gamma surveys were made during containment sphere entries.

The inspector conducted a gamma radiation survey using a recently calibrated Technical Associates CP-6 Survey-meter provided by the licensee. Locations in and around the auxiliary building were surveyed. Radiation levels measured at three feet above the floor and throughout the generally accessible area were in the two-to-twenty mR/hr range. Levels up to 120 mR/hr were detected near placarded equipment pumps and tanks in the special, gated, potentially high radiation areas. Some equipment adjacent to the decontamination area was wipe-tested as it was not identified as either contaminated or clean. The swipes were counted on the licensee's counting equipment under observation by the inspector. No removable contamination was detected. The licensee representative indicated that the equipment was probably cleaned but not yet formally cleared and tagged for release.

A smear survey was made of the work and floor surfaces at the control point health physics office. The swipes were counted in the NRC's proportional counter NMC Model PC-55. No removable activity was detected at the five locations swiped.

No items of noncompliance were identified in these areas of the radiation protection program.

4. Licensee Action on IE Circular 79-09

The licensee management was asked about the receipt, distribution and action taken with regard to IE Circular 79-09. The circular concerned the discovery of damaged regulator diaphrams on some self-contained breathing apparatus units that might be used for respiratory protection or for emergency response use. SONGS-1 had received the circular, had routed it and assigned followup action to the appropriate engineer; followup resulted in the determination that SONGS-1 did not possess any of the units cited in the circular and, other than making appropriate persons aware of the content of the circular, no additional action was taken.

No items of noncompliance were identified.

5. Exit Interview

At the close of the inspection an exit interview was held with management, supervisory and quality assurance representatives. The scope and findings of the inspection were reviewed (see items 3c, f, and g). No items of noncompliance were identified.