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

REGION V

Report No. 50-361/80-14
50-362/80-09

Docket No. 50-361, 50-362 License No. CPPR-97, CPPR-98 Safeguards Group _____

Licensee: Southern California Edison Company

P. O. Box 800 - 2244 Walnut Grove Avenue

Rosemead, California 91770

Facility Name: San Onofre 2 and 3

Inspection at: San Onofre, San Diego County

Inspection conducted: August 11-15, 1980

Inspectors: R. F. Fish — 9/9/80
R. F. Fish, Radiation Specialist — Date Signed

Enrico M. Garcia — 9 Sep 1980
E. Garcia, Radiation Specialist — Date Signed

Approved By: F. A. Wenslawski — 9/9/80
F. A. Wenslawski, Chief, Reactor Radiation Safety Sect. — Date Signed

Approved By: F. A. Wenslawski — 9/9/80
for H. E. Book, Chief, Fuel Facility and Materials Safety Branch — Date Signed

Summary:

Inspection on August 11-15, 1980 (Report Nos. 50-361/80-14 and 50-362/80-09)

Areas Inspected: Routine, unannounced preoperational inspection of radiation protection organization, training of radiation protection personnel, radiation safety procedures, preoperational testing procedure for process and effluent monitors, radiation survey instrumentation, licensee action on IE Bulletins and Circulars, construction environmental monitoring program and a tour of the facility. The inspection involved 56 hours of onsite time by two inspectors.

Results: No items of noncompliance or deviations were identified.

RV Form 219 (2)

## DETAILS

1. Persons Contacted

H. E. Morgan, Superintendent, Units 2 and 3
*P. A. Croy, Project QA Supervisor, Units 2 and 3
*P. R. King, Lead Engineer, Operations QA
H. L. Chun, QA Engineer
*T. D. Garven, QA Engineer
*J. E. Morgan, QA Engineer
J. Pantaleo, QA Engineer
D. C. Pile, Associate Construction Engineer
D. Breig, Test Operations Supervisor (HVAC/RAD WASTE)
R. Burdick, Systems Engineer
W. Ray, Lead I&C Startup Engineer
*R. V. Warnock, Chemical and Radiation Protection Supervisor
J. Albers, Chemical Radiation Protection Engineer
*S. Corey, Foreman, Chemical and Radiation Protection
R. Santosuosso, Supervisor, Plant Instrumentation
*W. M. Swab, Startup Engineering Supervisor, Unit 3

*Denotes those present at exit interview.

2. Radiation Protection Organization

The Unit 2 and 3 radiation protection organization is presently headed by a Chemical and Radiation Protection (CRP) Supervisor. Reporting to the CRP Supervisor are the CRP foremen and CRP engineers. The Chemical-Radiation Technicians (CRT) report to a CRP foreman. Two summer students have been temporarily added to the organization for a 2-3 month period. These students have been assigned specific projects related to beta and neutron monitoring. Currently there are four (4) CRP engineers, two (2) CRP foremen and nine (9) CRTs officially assigned to the Unit 2 and 3 organization. According to the CRP Supervisor, three (3) CRP foremen and 16 CRT positions have been authorized for the Unit 2 and 3 organization. The licensee stated that it was possible there would be changes involving the CRP organization prior to the issuance of the NRC operating license.

At the time of this inspection the Unit 2 and 3 CRP Supervisor was also the Unit 1 CRP Supervisor. Of the total of nine (9) Unit 2 and 3 CRTs, five (5) were still temporarily working at Unit 1. Two of the CRP engineers presently assigned to Unit 2 and 3 were performing tasks (computer applications and steam generator radiation protection) that primarily applied to Unit 1.

This inspection included an examination of the qualifications of the CRP engineers and the CRTs assigned to Unit 2 and 3. Two of the CRP engineers have a M.S. (Master of Science) degree in Radiation Physics. One of the other engineers has a B.A. (Bachelor of Arts) degree in Biological Sciences and the fourth CRP engineer has a

B.A. degree in Anthropology with a minor in chemistry and math. The directly related experience (power plant chemistry and/or radiation protection) of the engineers varies between 1.5 and 19 years with two of them having more than five (5) years. Six (6) of the CRTs have Bachelor degrees. Two of the other three CRTs have had had some college education (one has an Associate of Arts degree in Physical and Life Sciences and the other has 68 units in chemical engineering) and the third was an Engineering Laboratory Technician in the (nuclear) navy. Four of the CRTs meet the qualifications in Paragraph 4.5.2 of ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel" (a minimum of two years of working experience in their speciality plus one year of related technical training). Four of the other CRTs have completed one year of experience at the San Onofre site. The newest CRT recently arrived at the San Onofre site.

No items of noncompliance or deviations were identified.

3. Training

The initial training of the radiation protection staff has been started. All but one member has completed a four week orientation program covering the plant systems. Written examinations were a part of this program. All of the CRP engineers have attended a two-week course in health physics provided by the Energy Systems Group of Rockwell International, Canoga Park, California. This Rockwell professional level health physics course covers 22 subjects and is structured to help prepare for the American Board of Health Physics certification examination. The CRP Supervisor and two of the CRP engineers have also taken a course in "Health Physics and Accidents" provided at Oak Ridge, Tennessee. By the end of 1980 the CRP supervisor and the four CRP engineers will also have completed a course in "Reactor Operation" provided by the Energy Systems Group of Rockwell International. Two of the CRP engineers have attended a seminar on respiratory protection programs. The two CRP foremen have attended a one-week health physics course provided by the Energy Systems Group of Rockwell International. One foreman also attended a 2-3 day seminar on radwaste shipping. The CRTs have also received inhouse training on the following subjects: basic concepts of atomic and nuclear physics, interaction of radiation with matter, radiation detection instruments, turbine and reactor plant laboratory, health physics and radiation protection, instrument calibrations, radioactive releases, and environmental monitoring.

No items of noncompliance or deviations were identified.

4. Procedures

The writing of radiation safety procedures for Units 2 and 3 was initiated about two years ago. Many of these procedures have been written. A formalized system that results in approved procedures has been established. A draft of a procedure will be circulated to the various components (e.g. Plant Manager, Superintendent-Units 2/3,

Operations, Maintenance, Instrumentation, Engineering, San Diego Gas and Electric Representative) for comment. The originator of the procedure will evaluate each comment and make appropriate changes or provide a reason(s) for not making a change. The resolution of the comments occurs during the meeting of an onsite committee that has this function as one of its responsibilities. A document control form accompanies each procedure to record the reviews and approvals, including the final approvals by the Plant Manager and Superintendent of Units 2 and 3. The inspection did not include an examination of any of the procedures or document control forms.

No items of noncompliance or deviations were identified.

5. Preoperational Testing Procedures

The preoperational test procedure for process instrument calibration (No. 2PE-340-02) was examined. This procedure was Revision C and still in draft form. The procedure format covers, as applicable, the following subjects: objectives, acceptance criteria, references, prerequisites, limits and precautions, test equipment, initial conditions, procedure and data collection and system restoration. With respect to procedure No. 2PE-340-02 the initial conditions included a verification that the instruments had been isotopically calibrated in accordance with specifically identified Nuclear Measurements Corporation (NMC) procedures or a generic test that would be performed at a later time. An examination of the NMC procedures disclosed that the described calibration involved sealed sources rather than radioactive materials in an expected medium that occupied the entire instrument chamber.

During the period 1/24 - 2/8/79 the Southern California Edison Company Quality Assurance audited the Bechtel Power Corporation activities with respect to the testing of the radiation monitoring system (including the process and effluent radiation monitors). The purpose of the audit was to determine the status of the vendor (NMC) test data and to verify that the vendor test data had been reviewed and approved by the cognizant design organization. The audit and report of audit results were consistant with the requirements of the Quality Assurance Manual (Units 2 and 3). The audit did not identify any deficiencies.

The Lead I&C Startup Engineer had a February 13, 1979 letter from NMC that provided data on the calibration sources being supplied to perform calibration of the process and effluent monitors. Also attached were the data sheets showing the calibration for the supplied sources in the monitors being sent to Units 2 and 3. According to the engineer corrected copies were received subsequent to the February 13 letter. The letter and data sheets were examined during this inspection.

The I&C Startup Engineer said that they were still trying to resolve some questions concerning the NMC calibration procedures. As an example he indicated that it appears a radioactive gas (krypton-85) was used to calibrate the various gaseous monitors; however, the February 13, 1979 NMC letter does not address the subject of the calibration of these monitors. No information was available at the construction site concerning whether the vendor's initial primary calibration of the monitors included several isotopes whose radiation energy represented the range expected to be detected during the operating period.

This matter is considered unresolved. (80-14-01)

6. Survey Instrumentation

The site radiation safety organization has prepared a listing of radiation survey instrumentation and recommended that they be purchased for Units 2 and 3. This recommendation is presently being considered at the corporate office.

7. Actions on IE Bulletins and Circulars

a. IEB 80-03, Loss of Charcoal from Standard Type II, 2 Inch, Tray Adsorber Cells

Southern California Edison Company replied to this bulletin by letter, dated March 31, 1980, addressed to the NRC Region V Director. The letter stated that the charcoal adsorber cells had not been received from the manufacturer. During the inspection the Lead QA Engineer stated that the charcoal adsorber cells would be given the normal inspection for defects when they are received. The March 31 letter had noted that the casing used had a $90^0$ bend to preclude the leakage described in the bulletin.

b. IEB 80-10, Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment

This bulletin was given to Bechtel Power Corporation (BPC) and they are presently making an evaluation of Units 2 and 3.

c. IE Circular 79-21, Prevention of Unplanned Releases of Radioactivity

This circular was provided to BPC in February 1980 and their response to Southern California Edison Company is due this month.

d. IE Circular 80-14, Radioactive Contamination of Plant Demineralized Water System and Resultant Internal Contamination of Personnel

There has been no action on this circular yet; however, copies are to be sent to BPC, SCE Nuclear Operations and SCE Startup with instructions to take appropriate action.

8. Tour of Facility

During the inspection a tour of part of the Unit 2 facility was made. All areas inside the containment building were visited. The counting room, radioachemistry lab and radiation protection rooms in the access control area were also visited.

No items of noncompliance or deviations were identified.

9. Construction Environmental Monitoring Program

The applicant's construction monitoring program described in paragraph 3 of IE Inspection Report No. 50-361/77-07 has continued with three minor revisions since January of 1979. Due to the termination of most major construction activities, SCE has discussed with the California Regional Water Quality Control Board-San Diego and the NRC Environmental Project Manager the possibility of discontinuing the beach profiles, dewatering, intertidal reef, log of sand displacement, turbidity, subtidal sand habitat, intertidal sand habitat, kelp observations and thermal exception studies portions of the construction monitoring program. With the resumption of activities which might have an environmental impact, SCE would resume those portions of the monitoring program that relate to the resumed activity (e.g. removal of the sheet pile wall would resume the log of sand migration). Until such time as relief from the monitoring program is granted, negative reports will be prepared.

The examination of records and discussion with personnel related to the biweekly erosion control monitoring during construction disclosed that the program requirement was being met. Examination of the biweekly reports for the period January 1979 through July 24, 1980 revealed that erosion as little as 5 cubic yeards was being noted and rain fall was monitored and recorded to as low as 0.01 inch. When applicable corrective action related to identified erosion was also described.

Since July 1978 the SCE QA organization has conducted three audits and four surveillances related to the construction environmental monitoring program. The audits resulted in one corrective action request (CAR) concerning the failure to perform beach and bottom profiles in January and August 1978. The response to the CAR, located at the corporate office in Rosemead, CA, was not examined during this inspection. The surveillances involved observing kelp observations, intertidal sand habitant surveys, and analytical activities at the R&D Biological Systems Group (Biological consultants) facility in Consta Mesa, CA.

No deficiencies were identified during the surveillance activities.

By letter dated June 19, 1979 SCE reminded the San Diego Gas and Electric Company of the need to perform biweekly inspections for erosion during transmission line activities. A copy of the related construction monitoring procedure from the Environmental Monitoring Procedure Manual

was included with the letter as well as the identification of the (SCE) individual to whom the biweekly reports should be sent. San Diego Gas and Electric has been doing some transmission line work, but the extent and location of this work was not determined during this inspection. According to a SCE QA Engineer, San Diego Gas and Electric has not performed any biweekly inspections to date.

The program records located at the corporate office in Rosemead were not examined during this inspection. Two minor changes have been made to procedures in the Environmental Monitoring Procedure Manual since the January 16-18, 1979 inspection.

This matter is considered unresolved. (80-14-02)

10. Unresolved Items

Two items are considered to be unresolved. These are discussed in Paragraphs 5 and 9 of this report (also see Paragraph 11, Exit Interview).

11. Exit Interview

At the conclusion of the inspection, the inspectors met with those persons identified in Paragraph 1 of the report. The following Southern California Edison Company personnel were also present: D. E. Nunn, Manager of QA, and R. A. De La Parra, Environmental Engineer. Mr. R. J. Pate, NRC Senior Resident Inspector, was also present. The scope of this inspection and the findings were described. The applicant was informed that there were no items of noncompliance or deviations. The following two items were also discussed.

a. The inspection of the preoperational testing of the effluent and process monitors was not considered to be complete. The adequacy of the evaluation of the vendor's initial primary calibration of these monitors has not been ascertained.

b. The inspection of the construction environmental monitoring program was not considered to be complete. The analytical data, maintained at the corporate office in Rosemead, CA, was not examined during this visit and the facts related to the transmission line work performed by the San Diego Gas and Electric Company had not been obtained.