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

REGION V

Report No. 50-361/81-16

Docket No. 50-361 License No. CPPR-97 Safeguards Group

Licensee: Southern California Edison Company
P. O. Box 800
2244 Walnut Grove Avenue

Rosemead, California 91770

Facility Name: San Onofre Unit 2

Inspection at: San Onofre Site, San Diego County, California

Inspection conducted: July 20-24, 1981

Inspectors: F. Wenslawski for R. F. Fish, Radiation Specialist — 9/8/81 Date Signed

M. Cillis, Radiation Specialist — 9/4/81 Date Signed

Date Signed

Approved by: F. A. Wenslawski, Chief, Reactor Radiation Protection Section — 9/8/81 Date Signed

Approved by: H. E. Book, Chief, Radiological Safety Branch — 9/8/81 Date Signed

Summary:

Inspection on July 20-24, 1981 (Report No. 50-361/81-16)

Areas Inspected: Routine, unannounced preoperational inspection of licensee action on previous inspection findings, organization and staffing, training, respiratory protection program, process and effluent radiation monitoring systems, survey and radiochemistry laboratory instrumentation, calibration facility, actions on IE bulletins and circulars, tour of facility and unresolved items. The inspection involved 68 hours of onsite time by two inspectors.

Results: No items of noncompliance or deviations were identified.

RV Form 219 (2)

DETAILS

1. Persons Contacted

Southern California Edison Company (SCE)

J. M. Curran, Plant Manager
K. Barr, Health Physics Manager
*J. Albers, Acting Health Physics Supervisor, Units 2 and 3
*R. Grey, Health Physics Engineer
S. Folsom, Health Physics Engineer
B. Graham, Health Physics Engineering Associate
L. Sternfell, Health Physics Engineer
*J. Scott, Health Physics Foreman, Units 2 and 3
R. Rice, Health Physics Technician
D. Mc Closuskey, Emergency Planner
M. Sullivan, Chemistry Supervisor
A. Prosser, Chemistry Supervisor, Units 2 and 3
W. Ray, Supervising Engineer, I&C
W. Wilcheck, Supervisor, Nuclear Plant Instrumentation
G. Gregory, I&C Technician
D. Smith, Lead I&C Startup Engineer
J. Willis, Training Manager
*G. Noel, Training Administrator
C. Bostrom, Training Instructor
T. Elkins, Startup Engineer
M. Merlo, Supervisor, Test Operations
*D. Stonecipher, Supervisor, Operations QA/QC
T. Garvin, Lead QA Engineer
R. Fitch, QA Engineer
B. Sanano, QA Engineer
*C. Welch, QA Engineer
R. Cantrell, QA Engineer
P. King, Startup QA Engineer

*Denotes those present at exit interview.

Contractor

Combustion Engineering (CE)

M. Pourdrier, Radiological Engineer (consultant)
J. Moore, Senior Health Physics Technician
R. Harcombe, Senior Health Physics Technician
W. Otto, Senior Health Physics Technician

Other Contractors

J. Dodson, Radiological Engineer (consultant)
R. Anderson, Radiological Engineer (consultant)

2. Licensee Action on Previous Inspection Findings

(Closed) The proposed health physics organization and staffing (present and proposed) appears to provide a minimum acceptable capability by the time fuel will be loaded. See Paragraph 3 of this report.

(Open) The evaluation of the effect of long sample lines on the quantitative sampling of gaseous effluents has not been completed.

(Open) One of the two uncontrolled accesses (the ladder) to the area immediately south of the shielded fuel transfer tube on the 30 foot level has not been subject to corrective action. See Paragraph 8 of this report.

3. Organization and Staffing

Since the January 26-30, 1981 inspection (Inspection Report No. 50-361/81-02) there have been changes in the San Onofre Station organization involving chemistry and radiation protection (health physics). The chemistry and health physics functions have now been separated. The health physics group is now headed by a manager who reports directly to the Plant Manager. The chemistry group is headed by a Supervisor who reports to the Assistant Plant Manager, Technical.

The present Health Physics organization is a combination of Unit specific and site-wide responsibilities. There are five groups reporting to the Manager of Health Physics. There are two groups, each headed by a supervisor, responsible for health physics at Unit 1 and Units 2/3, respectively. The dosimetry and (solid) radwaste functions are site-wide responsibilities with each group headed by a supervisor. The fifth group consists of ALARA engineers.

Presently there is an Acting Health Physics Supervisor for Units 2 and 3. A permanent appointment to this position is expected in the near future. There is one Health Physics Foreman for Units 2 and 3; however, a second foreman is expected to be transferred from Unit 1 to Units 2 and 3 when the fuel for Unit 2 arrives onsite. There are five (5) contract Senior Health Physics Technicians, supplied by CE, reporting to the Foreman. An additional three (3) contract Senior Health Physics Technicians are expected to be added to the Units 2 and 3 staff by the time the fuel is received onsite.

The Units 2 and 3 Health Physics staff, as well as the staff for Unit 1, is supported by Radiological Engineers. One of these engineers, a SCE employee, has been assigned full time to Units 2 and 3. Four of the other engineers, three of which are working under contracts, have not been assigned work for a specific Unit, but have been working on tasks as they are assigned by responsible SCE supervision. The sixth member of this group is an Engineering Associate.

The expected level of SCE health physics technician staffing was discussed. In 1981 the authorized level is 30 of which 19 are designated for Units 2 and 3. At the time of this inspection a total 24 were employed. In 1982 the technician staffing has been increased to a total of 85 which includes 50 designated for Units 2 and 3. The Health Physics Manager explained that these staffing levels included persons presently in a training status. The Manager said that 12 such persons had started a formal training class in May and an additional class of 7 would start in September.

The inspection included an examination of the past experience and qualifications of the Health Physics staff assigned to Units 2 and 3. The pertinent data for the Health Physics Manager has been described in Paragraph 4 of IE Inspection Report No. 50-206/81-26. The Acting Supervisor has a M.S. (Master of Science) Degree in Radiation Physics and about 4.5 years of experience, most of which was at San Onofre. The Health Physics Foreman, who came to SCE in August 1978, was a qualified Chemical and Radiation Technician at Unit 1. Prior to his employment at SCE, the Foreman had four years of Navy (nuclear) experience as an ELT (Engineering Laboratory Technician) plus two years as a health physics technician at Peach Bottom Nuclear Power Plant. Based upon a review of resumes and discussions with some by the inspector, the five (5) contract Senior Health Physics Technicians meet the qualifications of Paragraph 4.5.2 of ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." At the time of fuel loading these technicians will meet the qualifications of Paragraph 4.5.2 of ANSI 3.1-1978, "Selection and Training of Nuclear Power Plant Personnel." The Radiological Engineers have Bachelor or Master Degrees in health physics, radiation health, physical science or biology and several years of related experience.

The chemistry group will have responsibility for plant chemistry, including radiochemistry, radioactive effluent (gases and liquid) releases and the environmental sampling program. Units 1 and 2 and 3 will each have a supervisor who reports to the Chemistry Supervisor. The group will include two Foremen and 16 technicians. There are presently four such technicians at the site. The group will include two persons who have college degrees that will be responsible for the effluent releases and environmental sampling program respectively.

No items of noncompliance or deviations were identified.

4. Training

A separate group has been established to provide the formal training required to be given to the reactor operators and other members of the site staff. This group is headed by a Manager who reports to the Manager of Nuclear Operations. Reporting to the Training Manager are two Training Administrators who are responsible for the reactor operator and technical and maintenance training programs respectively. The Training Instructors report to the Training Administrators.

The radiation protection training and (annual) requalification program has been described in Training Memorandum 1-81, dated January 24, 1981. This document was reviewed by the appropriate Training Administrator and approved by the Manager of Nuclear Training. The program description covers definitions used, objectives, training categories, performance evaluation and records. Attached to this memorandum are descriptions of the six specific courses that are covered by this program, including prerequisites, subjects presented and references.

The six (6) courses addressed in Training Memorandum 1-81 are general employee training (non-radiation workers), basic radiation training (radiation worker), advanced radiation training, professional radiation training and health physics technician training. The general employee training (GET) is intended to satisfy 10 CFR 19.12 and address the subjects of radiation and contamination, ALARA, employee responsibilities related to ALARA, warning signs and barriers, dosimetry, rules and regulations, prenatal exposure, emergency response and several other related topics. There is no written examination associated with the GET. The basic radiological training (BRT) covers the subjects of health physics, security, emergency planning, quality assurance/quality control and classroom training in respiratory protection. The initial course is a two day presentation that includes a tour of the facility; however, the retraining which covers the same topics is only one day in duration. Written examinations in the areas of security, health physics and emergency planning are part of the BRT and a passing score of 70 percent is required. The advanced radiation training (ART) is directed toward supervisors, craft foremen and journeymen workers who have supervisory responsibilities for radiation workers other than the NRC licensed personnel and health physics staff. The professional radiation training (PRT) has been developed for licensed operators and nuclear chemistry technicians. Written examinations are required for both the ART and PRT courses and passing scores of at least 70 percent are required.

The health physics technician training (HPTT) is described in Training Memorandum 5-81. This training consists of 10 weeks of academic subjects (mathematics, physics, electrical and mechanical concepts and basic plant systems) and 16 weeks of health physics. This formal training is followed by on-the-job training that lasts for about one year. The items included in the on-the-job training have been listed in

a bound "Qualification Card" document that is attached to Memorandum 5-81. Written examinations are given at the end of each major topic (e.g. mathematics, nuclear physics, basic plant systems). A minimum grade of 70 percent is required for any single examination; however, an average of 80 percent is required for the 26 weeks of the course.

The above described course documentation is supported by a Lesson Plan Book. This book addresses each of the courses. The objectives have been described. There is also a topic introduction and a description of the instructor's and trainee's activities.

The inspection included an examination of the qualifications of the instructors and related records. Two of the instructors for the radiation protection training are personnel supplied under a contract. One of these two individuals has a Masters Degree in Nuclear Science and Engineering and has 2-3 years of experience at nuclear power plants. This individual also worked at the NRC for 1.5 years. The other individual satisfactorily completed the U.S. Army Nuclear Operations and Health Physics training program and has 27 units of health physics courses at the University of Florida. The latter individual has had experience as an instructor, supervisor and field services technician in the area of radiation protection at eight nuclear power plants prior to working at San Onofre. A third instructor was a Chemistry and Radiation Protection Technician at San Onofre Unit 1 for a few years before transferring to the Training organization. The records show that the training staff has taken a course in "instructor training".

Training Memorandum 4-80, dated December 1980, describes the training record maintenance program. This document describes the purpose, objective, responsibility and administration of the training record program. The procedure describes the keeping of records and provides for assuring that duplicates of these records are kept in the Engineering Data Management (document control) system. The records kept by Training were examined during the inspection. This examination disclosed that the GET records were associated with the related program file (attendance only) and the BRT records were kept in a chronological file. The remainder of the files were by individual with groups according to health physics staff, health physics technicians in training, contractors and SCE employees. The records associated with NRC licensed personnel were not included in this inspection. The examination showed that the appropriate records were being maintained.

The CE Health Physics Technicians at Units 2 and 3 have been provided with documents describing the various systems in the plant. They have been given time to study these system descriptions and to observe them in the plant. The record of this study consists of a sheet of paper attached to the wall of the technician office area showing the individual systems and the names of the individuals. There are separate indications (initials) to show completion of the document study and tracing the system. The training group provides a two weeks course

on plant systems; however, the decision had not been made regarding these technicians attending the course. The licensee said that the system training would be formally recorded.

No items of noncompliance or deviations were identified.

5. Respiratory Protection Program

A commitment to maintain an effective respiratory protection program that is as a minimum consistent with 10 CFR 20.103, Regulatory Guide 8.15 and NUREG 0041, is contained in Station Order S023-HP-4, "Respiratory Protection Program". A similar program has been implemented for unit 1. The programs were revised to include the licensee's commitments resulting from the Health Physics Appraisal (IE Inspection Report 50-206/80-17) and commitments resulting from IE Inspection Report 50-206/80-26.

The Health Physics Manager is responsible for implementing this program. He is responsible for the Respiratory Protection Program Manual (RPPM) and health physics procedures necessary to maintain an effective program. The Training Supervisor is responsible for providing respiratory protection training and Supervisory and Health Physics personnel are responsible for enforcing the program as defined in the RPPM.

The primary objective of the program as discussed in the Station Order, RPPM and implementing procedures is to limit the inhalation of radioactive materials to levels that are As Low As Reasonable Achievable (ALARA).

The licensee's response to the Health Physics Appraisal committed to the implementation of an effective respiratory procection program encompassing Units 1, 2 & 3 by April 1981. The inspector reviewed the guidelines specified in R.G. 8.15 to determine the adequacy of the licensee's program. The inspection involved the review of: (a) respiratory training Lesson Plan #HP-5020, (b) of examinations, (c) of medical records, (d) of implementing procedures, (e) of equipment, (f) verification of personnel respiratory qualifications identified on the computer system and (g) discussions with licensee staff responsible for implementing the program.

The inspection revealed the following:

a) The use of half-masks were eliminated from the respiratory program.

b) The respiratory protection program appears to be consistent with the recommendations of Section 3.1.5 of NUREG 0041 and R.G. 8.15.

Classroom training consisting of a comprehensive two hour lecture is provided as part of the radiological training program. An examination is given to determine the effectiveness of the training. The training as a minimum covers the contents of Section 8.3 of NUREG 0041. Upon satisfactory completion of the classroom instruction and examination

the individual's name is entered into a computer program system which reads out at all control point entry areas. Data entered into the computer provides the individual's name and the types of respiratory equipment training provided during the classroom instruction which he/she attended. The classroom instruction alone does not qualify the individual into the respiratory program. In addition, the individuals are evaluated by qualified medical personnel and are required to attend a respiratory fitting program. The medical program appeared to exceed the recommendations of Section 7.4 of NUREG 0041 and the respiratory fit program appeared to be consistent with the recommendations of Section 8.5 of NUREG 0041. The individual is also given a whole body count prior to being considered qualified. This additional data is entered into the computer system. All individuals are required to requalify annually. Requalification includes a lecture, exam, medical, respiratory fit and whole body count. Provisions for accomplishing bioassays consisting of urine and fecal samples analyses are also available; however, it is only required on a case by case basis. The inspector reviewed medical exam records, whole body counting records and also observed respirator fitting operations. Qualification records were cross verified against the computer data input for ten randomly selected individuals.

A discussion was held with the Health Physics Manager to determine if any consideration was given toward ensuring that licensee personnel who are most likely to respond during radiological accidents/incident conditions were respiratory qualified. The Health Physics Manager stated that these considerations were in a state of development. The Health Physics Manager had just recently prepared a station memorandum addressed to the Plant Staff concerning this subject.

The inspection revealed that most of the implementing procedures for the respiratory program were prepared with the exception of a few that were in a state of development. For example, there was no procedure for performing periodic analysis of the breathing air supply system to assure that carbon monoxide, oil vapors and other contaminates are not inadvertently introduced into the breathing air supply system.

A discussion held with various licensee staff members revealed that a decision had not been made regarding the source of the breathing air to be used at Unit 2. It was ascertained that the most probable supply system would be the Service Air System. An inspection of this system was conducted by the NRC inspector. The inspection revealed that standard common Chicago fittings were used to deliver respirable air as well as several different fluid systems. The recommendations of R. G. 8.15 and Section 5.3 of NUREG 0041 which states "All fittings and components shall be standardized so that the introduction of gases other than pure breathing air or pure breathing oxygen into a respirator system is impossible" was brought to the attention of the staff and also discussed at the exit interview.

The contents of Information Notice 79-08 (IN-79-08), "Interconnection of Contaminated Systems with Service Air Systems Used as the Source of Breathing Air" was also discussed with the staff and at the exit interview. The IN had been sent to Unit 1 from NRC Region V office in March of 1979. Copies were also distributed to the staff during the inspection. The IN identified an occurrence at Peach Bottom Nuclear Power Station involving the cross contamination of the Service Air System due to failure of a check valve and a radwaste liquid process valve. The IN recommended that operating procedures should provide for controls to prevent contamination of the breathing air source if the Service Air System is used.

The need for determining the breathing air supply system and completion of all related procedures will be identified on a NRCAIR by the licensee for evaluation purposes. These concerns will be checked on a subsequent inspection.

No items of noncompliance or deviations were identified.

6. Process and Effluent Radiation Monitoring Systems

The inspection included checking on the current status of the process and effluent monitors previously discussed in IE Inspection Report 50-361/81-02. Inspection report 50-361/81-02 identified that the containment purge and vent stack wide range, main steam line and the normal sample lab isolation monitors had not been received. The report also identified:

a) It was not determined whether the condenser air ejector gas monitor was a single unit with two ranges or a second unit with a wide range.

b) Effects of long sampling lines estimated to be in excess of 50 feet, some of which are exposed to atmospheric temperatures.

c) Effects of sampling lines having 45 degree angle bends and 90 degree angle bends with large radii.

d) A very short 90 degree radius bend on the condenser air ejector lines which had not been evaluated.

e) Concerns discussing the preoperation testing procedures for instrument calibration.

The inspection revealed the monitoring system for the condenser air ejector consists of two separate systems. Both systems are used for the detection of gaseous radioactivity. One System (2RT-7818) is a single channel unit with two overlapping ranges and the second system (2RE-7870) is a wide range unit. The single unit system had been installed;

however, the detectors were subsequently damaged from an unknown water source. The detectors were removed at the time of the inspection for repairs. The licensee representative stated that an investigation is underway to determine the source of water. The detectors will not be re-installed until the water source has been determined and isolated. The wide range system is in the process of being installed.

An evaluation conducted by Bechtel Power Corporation (BPC) satisfactorily addresses the effects from the large and short radius bends; however, the licensee is evaluating the BPC evaluation concerning the lengthy sample lines. The licensee thought BPC's evaluation was too casual and as a result has requested appropriate plant personnel to validate/ concur with BPC's response.

A discussion with licensee staff indicated that the main steam line and containment purge and vent stack wide range monitors had been received; but, were not yet installed. A review of EDM files by the inspector verified that the main steam line monitors with verification of the vendor calibration had been received; however, the files did not contain any records of the containment purge and vent stack wide range monitors. During the review of EDM records it was also noted that one of two normal sample lab isolation monitors (2/3 RE-7839) had been received; but was not installed. The vendors calibration records for this monitor had also been received.

The licensee said that the preoperational test procedures were still being developed by the I&C group. The licensee stated that numerous problems with the preoperational testing have been identified which may require an inplace recalibration and operational checks of the process and effluent monitors after the problems have been resolved with the supplier (Nuclear Measurements Corporation). The preoperational test procedures will be fully developed upon resolution of these problems identified during the initial preoperational tests.

Tables 11.5-1 and 11.5-2 of the FSAR describe the various types, quantities and capabilities for process and effluent monitoring and sampling systems. Included in these tables are the alarm set points, expected concentrations and ranges of the various monitoring equipment. The set points, concentrations and ranges are expressed in units of microcuries/cm^3 (μCi/cm^3) or mr/hr. The readout display for those process and effluent monitoring equipment currently installed readout in counts per minute (cpm) or mr/hr. A check was made by the inspector to determine if procedures and/or instructions were available or planned to be issued which will define the significance of the cpm in terms of μCi/cm^3. A discussion held with the Unit 2 Startup Engineer revealed that wherever applicable, procedures would be developed to define the terms in units of μCi/cm^3. This concern was discussed at the exit interview. The licensee agreed to track this item on a NCRAIR.

No items of noncompliance or deviations were identified.

7. Survey Instrumentation, Radiochemistry Laboratory and Calibration Facilities

The site radiation protection organization has prepared a listing of portable radiation survey instrumentation and laboratory counting equipment and recommended they be purchased for Units 2 and 3. This recommendation is presently being considered at the corporate office. The listing includes:

a) Dose Rate Survey Equipment
b) Surface Contamination Instruments
c) Personnel Exposure Monitoring Equipment
d) Respiratory Protection and Air Sampling Monitoring Equipment
e) Calibration Equipment
f) Emergency Equipment

Unit 2 currently has a supply of portable instruments consisting of dose rate survey equipment, surface contamination equipment, personnel exposure monitoring equipment, calibration equipment, air sampling equipment and one Baird Atomic (alpha/beta) counting system. The majority of laboratory equipment had not been received at the time of the inspection.

Presently, the status of unit 2/3 radiochemistry laboratory is such that its capability to analyze samples will not be attained until sometime in September of this year. Although the laboratory is in place and some key equipment has been installed, certain key systems cannot be installed and brought on line until the facilities have been turned over to the radiation protection group by the construction group. The turnover of the radiochemistry laboratory spaces is expected soon. The instrument calibration facility for Units 2/3 was recently turned over to the radiation protection group. The inspector conducted a tour of the radiochemistry laboratory spaces and newly acquired calibration facilities.

The calibration facilities provide adequate space and shielding capabilities for the storage and calibration of radiation survey instruments of all types. It is expected to be activated upon receipt of calibration sources ordered for Unit 2 and 3. Currently, calibration of Unit 2 survey instruments for the most part are being performed at the Unit 1 calibration facility.

As previously discussed, the only laboratory counting equipment being set up at the time of the inspection was a Baird Atomic counting system used for the analysis of smears. The licensee was having difficulties establishing the proper operability parameters for this scaler due to line voltage and noise problems with the normal power supply system. It also appeared that possible faulty equipment design was contributing to the problem. A licensee associate engineer is working closely with the Instrument and Calibration (I&C) personnel

and the vendor in trying to resolve the problem. A temporary solution to the problem had been achieved at the time of the inspection.

The inspector reviewed calibration records for the calibrations of survey instruments performed by vendor and licensee after receipt. The calibration method appeared to be performed in accordance with in plant procedures and as recommended by ANSI N323-1978, "Radiation Protection Instrumentation Test and Calibration." The calibrations were being performed at the recommended frequencies and the results appeared to be adequately documented.

The inspector also reviewed the calibration certification documents for a 9.5 millicuries Cesium-137 source that the licensee had obtained from International Chemical and Nuclear Corporation (ICN). The vendors certification documents did not specify whether or not the source was traceable to National Bureau of Standards or traceable to a Derived Standard as recommended by Section 5 of ANSI N323-1978. This was discussed with the licensee assigned radiation protection engineer and at the exit interview. The engineer took immediate action to determine if the calibration source was NBS traceable. The source vendor was contacted and the engineer also stated that the licensee would verify the source calibration with the use of a Victoreen R chamber which had been calibrated to an NBS traceable source if the vendor was unable to verify the documented calibration results. The licensee will identify this item on a Non Compliance Report (NCR) until the problem is resolved. An NCR places a hold on the future use of the source until such time that its calibration certification documentation is resolved.

The inspector reviewed Health Physics Procedure SO23-VII-9.1.2, "Inventory and Leak Testing of Sealed Radioactive Sources". The procedure provides instructions for leak testing and source inventory of sealed radioactive sources. The review revealed that the instructions concerning source inventory were weak. The procedure did not specify the frequency at which source inventories are to be accomplished or what actions are to be taken for lost sources. These concerns were discussed with the assigned radiation protection engineer, foreman and at the exit interview. The licensee stated the concerns will be evaluated and has identified the item on a NRCAIR (tickler system) for tracking purposes.

Most of the implementing procedures for the portable and counting room instrument calibration program have been issued. The remaining procedures for instrument calibration are in a state of development and expected to be completed soon.

No items of noncompliance or deviations were identified.

8. Actions on IE Bulletins and Circulars

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

There has been no change in the status of this bulletin from what was reported in IE Inspection Report 50-361/81-06. The licensee is still evaluating the bulletin. This item is still open.

b) IEC 80-14, Radioactive Contamination of Plant Demineralizer Water System and Resultant Internal Contamination of Personnel

There has been no change in the status of this circular from what was reported in IE Inspection Report 50-361/80-14. The item remains open.

c) IEC 80-18, 10 CFR 50.59 Safety Evaluations for Changes to Radioactive Waste Treatment Systems (closed)

The licensee had completed their evaluation of this circular and has concluded their procedures adequately cover the concerns identified in the circular. The inspector discussed the circular with licensee personnel and reviewed the following procedures in order to determine their adequacy.

1) Procedure E&C 40-9-21, Nuclear Safety Group Review and Audit Responsibilities for Unit 2-3.

2) Procedure E&C-40-9-22, Independent Safety Engineering Group (ISEG) Surveillance of Plant Activities for Songs 2&3.

3) Engineering Procedure SO123-V-4.14, Proposed Facility Change.

The inspector concluded that the circular was properly evaluated and that the implementing procedures appear to adequately address the concerns of the circular. This item is closed.

d) IEC 81-07, Control of Radioactivity Contaminated Material

The licensee has acknowledged receipt of this circular and are presently making an evaluation of this circular for Units 1, 2 and 3. This item is open.

9. Areas Adjacent to the Fuel Transfer Tube

Areas outside the Containment Building that are adjacent to the shielded transfer tube were reexamined during this inspection for the purpose of determining what correction actions were taken to resolve previous inspection findings. IE Inspection Report 50-361/81-06 reported the following conditions:

a) A bar barrier had not been installed in the pipe chase on the 15 foot level to prevent entrance to the area near the transfer tube from the south.

b) A space between the Containment Building and wall that defines a controlled area on the 30 foot level south of the fuel transfer tube was sufficient to permit personnel access into the controlled area.

c) A ladder which is permanently attached to a wall south of the transfer tube on the 30 foot level provides personnel access from a controlled area to a high radiation area.

The FSAR indicates that radiation levels in the above areas may exceed 100 mr/hr during periods when spent fuel is being transferred through the tube to the Fuel Building.

The re-examination of the above areas revealed that a permanent bar barrier was installed in the pipe chase which will prevent access from the south end of the tube. The space between the containment building and wall that defines the controlled area south of the transfer tube had been permanently sealed with an 8 foot high steel plate. Corrective action to prevent personnel access from the uncontrolled area to the controlled area via the ladder has not been completed. The licensee is continuing to track this item on a NRCAIR.

No items of noncompliance or deviations were identified.

10. Tour of Facility

During the inspection a tour of part of the Unit 2 facility was made. The tour included the containment building, turbine building, auxiliary building, radiochemistry laboratory, radiation protection rooms in the access control area and the post-accident sampling room located on the 24 foot level of the Rad Waste building.

The tour disclosed there were spaces around the pipes that passed through the shield wall inside the containment building. There were also some holes without piping in them. A similar situation existed in the shield wall in the post accident sampling room. According to the licensee a contract has been issued to fill the holes in the shield wall inside the containment building with a lead filled sealant. The licensee did not know whether the design of the shield wall in the post accident sampling room had included an ALARA (as low as reasonably achievable) exposure evaluation relative to personnel operating the post accident sampling facility and radiation from the holes around the pipes passing through the shield wall.

No items of noncompliance or deviations were identified.

11. Items of Concern

Three items of concern still requiring resolution were identified and brought to the attention of the licensee during the inspection and at the exit interview. One concerns ALARA considerations in connection with the pipe holes in the shield wall located in the post accident sampling room. This is discussed in Paragraph 10. The second item relates to the calibration of the process and effluent radiation monitoring system which is discussed in Paragraph 6. The third item concerns the source of breathing air to be used inside the containment building for respiratory protection. This is discussed in Paragraph 5 and Paragraph 12.

12. Exit Interview

At the conclusion of the inspection, the inspector met with those persons identified in Paragraph 1 of this report. The following SCE personnel were also present: D. E. Nunn, Manager of QA; C. R. Horton, Startup QA Supervisor; M. A. Wharton, Supervising Engineer; F. Briggs, Compliance Engineer; E. Gault, Compliance Assistant; W. C. Scully, Training Services Administrator. The scope of the inspection and the findings were described. The applicant was informed that there were no items of noncompliance or deviations identified during the inspection. The following items were also discussed.

a. Because of the necessity for plant specific training, consideration should be given to completing arrangements for expanding the Health Physics Technician staff as soon as possible.

b. Because the source of air to be used in connection with the air supplied respiratory protection equipment has not been determined, some procedures related to this program have not been completed. Items still to be addressed include analysis of samples to assure the air meets acceptable quality standards and action to prevent contaminated hoses or lines from being used in connection with the respiratory protection equipment. (81-16-01)

c. Two possible problems related to sealed calibration sources were identified during the examination of the survey instrumentation program. A 9.5 millicurie calibration source, obtained from ICN, was not accompanied by a certificate showing it was NBS traceable. Also the requirements for source inventories, contained in Procedure S023-VII-9.12, were not specific with respect to when they were to be taken and there was no guidance in the procedure for actions related to lost sources. During the exit the licensee/applicant said they had determined that the 9.5 millicurie source was NBS traceable and the supplier would be providing suitable documentation. (81-16-02)

d. The installation, calibration and the establishment of calibration procedures related to the process and effluent radiation monitoring systems has not yet been completed (Reference Paragraph 5 of

IE Inspection Report No. 50-361/80-14). Also there is a need for a mechanism permitting responsible personnel to relate the meter readings for these instruments to release rates (μCi/cc). (81-16-03)

e. The examination of the area around the steam generators disclosed there would be space restrictions in connection with the inspection and repair of this equipment. Groups that would be involved in such activities should be doing some of the pre-planning effort prior to criticality so that exposures related to such work can be considered ALARA.