

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/87-21, 50-361/87-19, 50-362/87-21

Docket Nos. 50-206, 50-361, 50-362

License Nos. DPR-13, NPF-10, NPF-15

Licensee: Southern California Edison Company  
P. O. Box 800  
2244 Walnut Grove Avenue  
Rosemead, California 91770

Facility Name: San Onofre Units 1, 2 and 3

Inspection at: San Onofre, San Clemente, California

Inspection Conducted: August 10 through September 4, 1987

Inspectors: P. H. Johnson  
for P. Qualls, Reactor Inspector

9/22/87  
Date Signed

P. H. Johnson  
for J. O'Brien, Reactor Inspector

9/22/87  
Date Signed

Approved By: P. H. Johnson  
P. H. Johnson, Chief  
Reactor Projects Section 3

9/22/87  
Date Signed

Inspection Summary:

Inspection on August 10 through September 4, 1987 (Report Nos. 50-206/87-21, 50-361/87-19, 50-362/87-21)

Areas Inspected: Routine inspection of Units 2 and 3 Maintenance Program and inspection of Unit 2 Local Leak Rate Testing (LLRT). The following IE Manual Chapters were used during this inspection: 62700, 30703, 61720, and TI 2500/19.

Results: Of the areas examined, an apparent violation was identified and is discussed in Paragraph 2.i of the inspection report.

## DETAILS

### 1. Persons Contacted

- \*M. Wharton, Deputy Station Manager
- D. Stonecipher, Quality Control Manager
- \*D. Irvine, Station Technical
- \*P. Blakeslee, Station Technical
- \*J. Hirsch, Supervisor, Station Technical
- \*T. Nichols, Quality Assurance
  - A. Meichler, Power Generation Engineer
  - M. Jennex, Power Generation Engineer
  - G. Shelton, Power Generation Engineer
- \*R. Plappert, Compliance Engineer
- \*M. Zenker, Compliance Engineer
- \*\*F. Bolton, Supervisor, Quality Control
  - G. Johnson, Quality Assurance Engineer
  - C. Brandt, Quality Assurance Engineer
  - C. Couser, Compliance Engineer
  - R. Santosuosso, Assistant Maintenance Manager
- \*\*S. McMahan, Supervisor, Maintenance Engineering
  - W. Lazear, Quality Assurance
- \*\*D. Herbst, Supervisor ISEG
- \*\*M. Ramsey, Quality Assurance

\*Attended exit interview on September 3, 1987.

\*\*Attended exit interview on September 4, 1987.

The inspectors also contacted other licensee employees during the course of the inspection.

### 2. Maintenance Program (Units 2 and 3)

The inspector selected and reviewed 26 completed Maintenance Orders (MOs) in the following categories:

- ° Safety-related (SR) equipment failure leading to a plant shutdown.
- ° Non-SR equipment failure leading to a plant shutdown.
- ° Equipment failure relating to reduced capability of an SR system.
- ° Recurring SR equipment failure.

The completed MOs selected involved Electrical, Instrumentation and Control (I&C), and Mechanical maintenance.

- a. For the maintenance activities reviewed, the inspector had the following findings:

- ° For the failures of charging pump P190 and power supply PS 128 the licensee conducted detailed evaluations to determine the cause of the failure and thus to prevent further failures.

- For the scheduled maintenance, the work procedures appeared to be adequate for the scope of the maintenance.
- All administrative approvals appeared to have been obtained prior to starting work.
- Limiting conditions for operation (LCOs) were met while components were out of service.
- Approved procedures were used for complex activities.
- Except as noted in Paragraph 2.1, inspections were made in accordance with the licensee's requirements and the records were complete.
- Functional testing and calibrations were complete prior to returning a component to service.
- Personnel performing the activities appeared to have been properly trained and qualified for the activity performed.
- LERs were written, where required, for the equipment failures examined.
- Corrective and preventative maintenance was recorded in machinery history.
- With the exception noted in Paragraph 2.i, the measurement and test equipment (M&TE) was identified and in calibration.
- The procedure examined conformed to the licensee's administrative requirements.
- Post-maintenance testing appeared adequate for the repairs made.
- Inspection witness and hold points were identified in the maintenance orders and were established based on a set of written guidelines.
- For scheduled maintenance, the activity was described in adequate detail.
- Consideration was given to radiological, temperature, pressure and electrical hazards as required.
- Provisions were included for fire protection, cleanliness, and housekeeping.
- Controls were present for control of equipment and lifted leads.

- b. The inspector reviewed machinery history records for P190 and PS28 and verified that the records were up-to-date and properly stored as quality assurance records.
- c. The inspector reviewed the records for several pieces of M&TE used during the different maintenance activities and verified that:
  - ° The M&TE was in calibration at the time of use.
  - ° The M&TE calibration was traceable to a National Standard.
  - ° The M&TE was properly stored, controlled, labeled and identified.
  - ° The error of the M&TE was less than the instruments being calibrated.
- d. The inspector verified that, for safety-related instruments used in plant systems and not required by Technical Specifications specifically to be calibrated, but used in plant operations or surveillance testing:
  - ° The instruments were being kept in calibration using a computer-controlled schedule;
  - ° The calibration was being kept up-to-date;
  - ° The calibrations were traceable to recognized standards with accuracies in accordance with accepted industry standards; and
  - ° An approved procedure was used to perform the calibrations, with the identify of the person performing the calibration clearly documented.
- e. The inspector reviewed the preventative maintenance program and determined that:
  - ° A master schedule is available;
  - ° The computer automatically identifies late or incomplete preventative maintenance;
  - ° Preventative maintenance procedures are available and sufficiently detailed; and
  - ° A lubrication control program is kept up-to-date, with oil changes in major components based on results of sampling.
- f. The inspector reviewed the qualification and training of the maintenance staff. The control of job assignments was controlled by Maintenance Policy Guide S0123-G-23 which did not allow new or inexperienced personnel to be assigned to perform maintenance without having completed training for that activity. Initial qualification, training and retraining were being performed using an

INPO certified program. Awareness of maintenance and supervisory personnel of plant problems was kept current through the use of preshift "tailboard" discussions and required reading.

- g. During time spent in the plant, the inspector observed maintenance on the Unit 2 Diesel Generator "B" fire blanket replacement and an electrical inspection with the following observations:
  - ° Maintenance personnel understood the work scope;
  - ° The technicians appeared to be qualified for their respective tasks;
  - ° Supervisory oversight appeared adequate; and
  - ° The technicians performing the tasks had a copy of the procedures and were using them for guidance.
- h. The licensee performed several MOs during performance of S0123-I-8.85, Pumps - Charging Pump and Gear Reducer, Routine Maintenance, which the inspector reviewed. The MOs were written to give the maintenance supervisor or cognizant engineer the ability to determine if certain steps, such as changing the oil, were required and to direct the technician not to perform those steps of the MO if the step was not required. In most cases observed, the technician did not perform some of the steps called out in the MOs because the cognizant engineer or maintenance supervisor determined that the work was not necessary. The technician did not record in the MOs the reason for not performing these steps; writing on the Maintenance Data Record Form (MDRF) reflected only the abbreviation NCO or NU meaning not called out or not used. There was no documentation in the MO or MDRF which would indicate why the steps were not performed. Due to the LCO controlling this job, the licensee had a supervisor controlling the maintenance performed, so the proper person did determine that the work was not necessary. Licensee procedures, Maintenance Procedure S0123-I-1.7, and Administrative Procedure S0123-VI-1.0-3 provide guidance on the proper documentation of actual work performed during maintenance. Licensee representatives stated that they would conduct training for maintenance personnel in the proper method of work documentation in this area. The completed training will be examined during a future inspection. (50-361/87-19-01)
- i. Maintenance Procedure S0123-I-1.7, Paragraph 6.12.21, states that the Maintenance General Foreman or Responsible Supervisor is responsible to review Work Package Documentation for accuracy and completeness; and when satisfied that the work activities and documentation are complete, one of them shall sign and date the hardcopy of the MO in the Supervisor Approval block. MO 86071243001, performed in late September 1986, was signed as complete by the technician and signed by the Responsible Supervisor in the Supervisor Approval block indicating that the work activities and documentation were complete even though a QC witness point was not signed and the M&TE and calibration due dates were not recorded

as is required by S0123-I-1.7. The licensee, when made aware of this discrepancy, was able to locate and verify that the M&TE that was used was in calibration but was not able to show that QC had witnessed the missed witness point. This is an apparent violation. (50-362/87-21-01)

The improper documentation of completed work discussed in paragraph h and the failure of supervision during the review to identify the missing signature and data in paragraph i indicated to the inspector that first line supervision may not be reviewing all of the completed work packages in sufficient detail. When this issue was discussed with licensee representatives, they stated that additional training for supervisors would be performed. This training will be reviewed during a future inspection. (50-361/87-19-02)

### 3. Containment Local Leak Rate Testing (LLRT) (Units 2 and 3)

#### a. Procedure Review

The inspector reviewed the licensee's LLRT procedures as described in Engineering Procedure S03-V-3.13, Revision 5 of August 27, 1987, (and latest applicable temporary change notices) entitled "Containment Penetration Leak Rate Testing." This review was to ascertain compliance with plant technical specifications, regulatory requirements, and applicable industry standards as stated in the following documents:

- ° San Onofre Nuclear Generating Station 2 and 3 FSAR, "Containment Integrated Leakage Rate Test," (Section 6.2.6.1) and "Containment Leak Rate Test" (Section 14.2.12.20).
- ° San Onofre Nuclear Generating Station, Unit 3, Technical Specifications; 3/4.6.1.1 Containment Integrity, 3/4.6.1.2 Containment Leakage.
- ° Appendix J to 10 CFR 50, "Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors."
- ° American National Standard, "Leakage-Rate Testing of Containment Structures for Nuclear Reactors," ANSI N45.4-1972.
- ° Topical Report BN-TOP-1, Revision 1, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants," Bechtel Corporation.
- ° American National Standard, "Containment System Leakage Testing Requirements," ANSI/ANS-56.8-1981.

The inspector verified that all applicable Containment Penetration Boundaries (CPBs) and Containment Isolation Valves (CIVs) subject to local leak rate testing were addressed by the procedure. Also, the inspector determined that the LLRT program utilizes approved methods for testing, appropriate test pressures and maximum pathway leakage

for CPBs, appropriate acceptance criteria, and response for failed LLRTs consistent with Industry Standards and NRC requirements.

b. Records Review

The inspector reviewed licensee records for 10 Maintenance Orders for each of Unit 2's and Unit 3's CPBs and CIVs that were worked since the last Integrated Leak Rate Test (ILRT) outages. The inspector verified that an LLRT was performed after completion of the maintenance, and the running sum total leakage of all the B and C type tests was less than the 0.6La allowed by the Technical Specifications.

The inspector reviewed the LLRT schedule, and balanced it against outage maintenance orders for the fall 1987 ILRT outage of Unit 2. The inspector verified that these repairs/modification will be preceded and followed by an LLRT of the applicable penetrations. This will allow total "as found" leakage to be determined for the ILRT.

c. Observation of LLRT

The inspector witnessed the actual pre-maintenance LLRT on Unit 2 penetration #67 and its respective CIV's.

The inspector made the following observations:

- Testing was performed in accordance with the approved procedure.
- The test equipment used was properly calibrated.
- ALARA planning was conducted, although just before entering containment.
- Job site planning was not done. Numerous trips out of the area were required to obtain the proper fittings, tools and a ladder.
- The test engineers involved were not current on respirator training. The assistance of a plant mechanic was required to make up the test connections that were in Class III Rad Con areas.

The latter three items contributed to increased radiation exposure by those performing the LLRT, and are weaknesses that need prompt licensee attention. At the exit meeting on September 3, 1987, the Assistant Technical Manager and the Senior Test Engineer committed to address these concerns. These licensee actions will be examined during a future inspection. (50-361/87-19-03)

No items of noncompliance or deviations were identified.

#### 4. Facility Tour

During the course of the inspection, the inspector made several tours through each of the units to observe work in progress and made the following observations:

- ° Housekeeping at the local work stations appeared to be improving significantly.
- ° HP practices were being followed.
- ° Foreign Material Exclusion (FME) practices were being strictly followed.
- ° Personnel performing maintenance had procedures available and were using them.
- ° No equipment deficiencies, not previously identified by the licensee, were discovered.

#### 5. Exit Meetings

Exit meetings were held on September 3, 1987, for the LLRT issues and on September 4, 1987, for the remaining issues. The items listed in this report were discussed at that time.