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

REGION V

Report No. 50-206/80-34

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

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

Facility Name: San Onofre Unit 1

Inspection at: San Onofre, California

Inspection conducted: December 1-24, 1980

Inspectors: L. Miller, Resident Inspector — 19 JAN 81 — Date Signed

R. Pate, Senior Resident Inspector — 1/21/81 — Date Signed

Date Signed

Approved By: B. H. Faulkenberry, Chief, RONS II — 1/22/81 — Date Signed

Summary:

Inspection on December 1-24, 1980 (Report No. 50-206/80-34)

Areas Inspected: Routine, resident inspection of plant operations during long term outage; monthly maintenance observations; review of plant operations; followup on licensee event reports; independent inspection (followup on inspector-identified items); TI 2415/46; and followup on Systematic Appraisal of Licensee Performance (SALP). The inspection involved 70 inspector hours by two NRC inspectors.

Results: Two items of noncompliance were identified (Failure to implement a physical security plan requirement - Severity Level IV; Insufficient review of a safety-related procedure - Severity Level V).

DETAILS

1. Persons Contacted

*H. E. Morgan, Superintendent, Units 2 and 3
*R. Brunet, Superintendent, Unit 1
*B. Katz, Station Supervising Engineer
*W. Frick, Compliance Engineer
*J. Tate, Supervisor of Plant Operations
*R. V. Warnock, Supervisor of Chemistry and Radiation Protection
*E. A. Rinard, Unit 1 Warehouse Supervisor
*J. D. Dunn, Project Quality Assurance Supervisor
*K. N. Hadley, Station Security Supervisor
*R. W. Rutland, Quality Assurance Engineer

The inspector also interviewed other licensee employees on the maintenance, security, and operations staffs during this inspection.

*Denotes those attending the Exit Interview on December 29, 1980.

2. Monthly Surveillance Observations

The inspector observed licensee personnel load test the #1 125 vdc battery, perform area radiation monitoring system checks, and perform radiation surveys. Surveillance activity was relatively low. The activities observed were performed in accordance with the appropriate procedures. Limiting conditions for operation were met where applicable. Logs and records were kept, and were reviewed independently where required. The licensee's records indicate that all surveillances required to be completed during this period were completed.

No items of noncompliance or deviations were identified.

3. Monthly Maintenance Observations

a. Routine Activities

The inspector observed portions of the following maintenance:

. #1 Diesel Generator Turbocharger Inspection and Repair

The inspector determined that this activity did not violate limiting conditions for operation, that required administrative approvals and tagouts were obtained prior to initiating the work, that approved procedures were being used by qualified personnel, and that fire prevention controls were adequate.

Licensee personnel stated that the four turbocharger thrust bearings on the #1 Diesel Generator had failed. The apparent cause for this failure was believed to be insufficient lubrication while the diesel was being started. A similar degradation of these bearings on the #2 Diesel Generator is suspected. A licensee representative stated his understanding that complete turbocharger failure would not disable these diesels, that all turbochargers would be inspected and repaired, that a Licensee Event Report would be submitted, and that any further reductions in power redundancy would be discussed in advance with the Resident Inspector (OI 80-34-01).

b. Steam Generator Repair Program

In this inspection period, the licensee continued surface honing and boroscopic inspection of tubes in each steam generator. The scope of boroscopic inspection was expanded to include all tubes to be sleeved. Approximately 75% of these had been boroscopically verified to be acceptable.

The start of production brazing was delayed due to unexpected difficulty encountered in brazing below the sludge line. The licensee and contractor were actively evaluating possible techniques to resolve this problem while honing and boroscoping continued.

The inspector reviewed the licensee's Nonconformance Report NCR SO1-P477 dated October 13, 1980. This NCR contained as an enclosure a Westinghouse internal memorandum which estimated the corrosion rate of the aluminum nozzle seal cover plate that was dropped into the reactor coolant system. At the end of this inspection the seal had been submerged approximately ten weeks. A Westinghouse representative stated that an evaluation of the effects and amounts of the aluminum released to the coolant would be presented to the Resident Inspector (OI 80-34-02).

The inspector reviewed the procedures and procedure revisions written during this inspection period for the steam generator repair program. One of these revisions was Procedure Change Notice (PCN) #3 to SPE-307, "Sleeve Insertion, Expansion and Mandrel Removal Hands On." The change was a "Procedure for Operation of One Revolution Cutter Tool," a procedure to intentionally perforate a selected tube of the steam generator to test the leak tightness of the braze for that tube.

The basic procedure, SPE-307, had as its purpose, "sleeving tubes of a Series 27 vertical steam generator, hydraulically expanding the regions of the sleeve, installation and removal of the expansion mandrel after the expansion process has been satisfactorily completed." The procedure revision was approved by two members of the On-Site Review Committee on December 6, 1980 and implemented that day on at least one tube of the "B" steam generator. A licensee representative

stated that this change, PCN #3, to the procedure SPE-307 had not altered the intent of the procedure, and therefore it was permissible under the exception of Technical Specification 6.8.3 to Technical Specification 6.8.2. The basic specification requires that each procedure change shall be reviewed by the On Site Review Committee prior to implementation, while the exception allows changes which do not change the intent of the procedure to be made without prior approval of the full On Site Review Committee. The inspector stated that the change to the procedure dealt with an entirely separate and independent process (tube cutting of the primary pressure boundary) from the original procedure (which dealt with adding sleeves to existing tubes), and thus was a new procedure requiring complete review by the On Site Review Committee prior to implementation.

Technical Specification 6.8.1 states that written procedures shall be established that meet or exceed the requirements and recommendations of Appendix "A" of USNRC Regulatory Guide 1.33, Rev. 1, Quality Assurance Program Requirements (Operation). Among these recommendations is one for "Repair of PWR Steam Generator Tubes" (Paragraph 9C(1)).

Technical Specification 6.8.2 requires that each procedure of 6.8.1 above and changes thereto shall be reviewed by the On Site Review Committee and approved by the Plant Manager prior to implementation.

Contrary to these requirements, Procedure Change Notice No. 3 to SPE-307, "Procedure for Operation of One Revolution Cutter Tool," a procedure to intentionally perforate selected steam generator tubes, was implemented on December 6, 1980 without the prior approval of the On-Site Review Committee. The procedure, which was new, had been attached to an existing, approved procedure SPE-307, "Sleeve Insertion, Expansion and Mandrel Removal Hands On," which described the procedures and methods for installing sleeves into the steam generators. This is an apparent item of noncompliance. (OI 80-34-03)

4. Review of Plant Operations

The inspector inspected the licensee's warehouse, interviewed warehouse personnel, and reviewed procurement records to verify that items were procured in accordance with the licensee's procurement procedures. The inspector observed that the licensee had a quarantine area and tagging system for non-conforming items, that the warehouse was clean, temperature controlled, rodent control measures were in effect, and combustibles were segregated from other stored material. The inspector also observed that no system existed to systematically control limited shelf-life items at Unit 1. A licensee representative stated that a system similar to that in effect for Units 2 and 3 would be implemented at Unit 1 to ensure that limited shelf life items were in fact suitable for safety-related service when issued from storage. (OI 80-34-04)

The inspector reviewed three requisitions: No. 6784G for auxiliary feedwater pump shaft work and parts, 1719F for auxiliary feedwater pump turbine parts, and 1685F for charging pump seal injection line material. The purchase order, receipt records and certification records (where appropriate) were verified to be present and appeared complete. The inspector observed that the licensee does not require issue records for material procured for a specific job, nor is the location of every item in storage recorded.

No items of noncompliance or deviations were identified.

5. Followup on Licensee Event Reports (LERS).

a. LER 80-28 (Nonconforming Pipe Guides).

The inspector stated that this report would be reviewed together with the licensee's final report on IE Bulletin 79-14, which is to be submitted prior to the Unit's return to power. This report remains open.

b. LERs 80-29, 34 and 36 (Inadvertent Dilutions of the Reactor Coolant System).

The inspector reviewed these three similar events at the times of their occurence. The inspector stated that the licensee's corrective action of reinforcing and more carefully inspecting the inflatable nozzle seals, together with the completion of the high pressure grit spray decontamination process appeared adequate to prevent recurrence. In addition, the inspector stated his agreement with the licensee's appraisal that the safety impact of the dilutions had been negligible. These reports are closed. (TERA Docket Nos. 50-206-800901, 50-206-800902 for LERs 80-34 and 80-36 respectively).

c. LER 80-31 (50-206-800728) (Uncontrolled Modification of POV-6 Solenoid Valve).

The inspector reviewed this report and discussed the corrective action with licensee personnel. The inspector requested further clarification of what "recounseling" of station personnel consisted of in this corrective action. This report remains open.

d. LER 80-32 (Dessicant in Instrument Air System).

The licensee reported the failure of isolation valve CV-537, service water to containment, to operate. The valve was stuck in a mid open position. An investigation revealed that degraded desiccant from the air dryers had entered the solenoid valve and prevented it from operating. An identical failure of this valve was reported in LER/80-03. Corrective actions resulting from the prior failure may have contributed to this failure of valve CV-537. The instrument air header was being blown down when the valve became stuck.

The blowdown of the instrument air header may have caused degraded desiccant in the header to migrate to the valve solenoid. The corrective action taken by the licensee as a result of the first failure of valve CV-537 was discussed in inspection report 50-206/80-16.

Further investigation by the licensee found that the air supply header pressure was higher than the maximum design operating pressure of the solenoid for valve CV-537. This was corrected by installing a pressure regulator. SCE reviewed the design of other similar valves and did not find any additional valves that were being operated at pressures higher than the design pressure.

SCE committed to remove the degraded desiccant from the instrument air header by completing the system blowdown and by subsequently blowing down the supply line to each valve or safety related component. Also SCE committed to take the following additional corrective actions.

1) Verify that each air operated safety related valve or component functions properly. This will be done by inspecting each pneumatic instrument or pilot valve for desiccant and by stroking the valves and calibrating the instruments. Instruments or valves that display slow or erratic response will be repaired or replaced. This inspection, calibration, stroking, repair, or replacement will be accomplished in accordance with procedures approved by the On-Site Review Committee.

2) Review the programmed drying cycle for the desiccant dryers to ensure the manufacturer's recommendations are being met and make corrections as necessary.

3) Modify the filters down stream of the desiccant dryers to provide a more positive seal to preclude any possible bypass of degraded desiccant. This modification will be reviewed by the On-Site Review Committee and the Off-Site Nuclear Audit Review Committee (NARC).

4) Determine the potential for free particles of iron or iron oxide in the instrument air system and their possible deleterious effect on safety related valves or instruments. Take corrective action as necessary.

5) The On-Site Review Committee will review the status of the instrument air system to assure the system will support safe operation of the plant prior to returning to power.

6) A summary report of all actions and results will be prepared. This report will be reviewed by the On-Site Review Committee and will be available for review by the NRC.

This report remains open.

e. LER 80-35 (50-206-800918) (Containment Isolation Valve Switch Defect).

Licensee personnel stated that switches of a different design would be installed. The inspector stated that this corrective action was acceptable provided that the switches were installed prior to the Unit's return to power, but that it would probably not be acceptable to rely only on system flow, pressure and temperature process instrumentation to indicate valve position of containment isolation valves of essential systems at power without a 10 CFR 50.59 analysis. This report remains open.

No items of noncompliance or deviations were identified.

6. Review of Plant Operations During Long Term Outage

The inspector observed that the control room was properly manned, procedures and limiting conditions for operation were followed, and recorder and instrument indications were appropriate for the plant status. The inspector reviewed logs and operating records frequently and verified that radiation controlled area access points were properly manned, equipped and operated. Frequent discussions were held with licensee personnel at all levels of responsibility to determine their awareness of existing plant conditions and the significance of those conditions. The inspector frequently toured the facility. The Unit's fire protection plan appeared to be properly implemented, and the cleanliness of the facility appeared good. The inspector reviewed the Temporary Modifications Log (lifted leads and jumpers) and the active "Clearances". Diesel generator starting air "Clearance" tags were verified to be in place. The inspector noted that all surveillance tests required and able to be completed in the plant condition had been recorded as completed. The inspector walked down portions of the breathing air, diesel generator starting air, and feedwater systems to verify that they were correctly lined up for the existing plant status.

(See Addendum 1 - 2.790 Material).

7. Systematic Appraisal of Licensee Performance (SALP)

The inspector reviewed the licensee's list of sixty-eight work packages planned for completion at Unit 1 as of December 4, 1980. From these four were selected: pressurizer safety valve position indication, subcooling monitor, sequencer modification for small break LOCA and LOP, and auxiliary feedwater system automation. The inspector stated that these modifications will be reviewed at several stages of their progress to ensure that the concerns of the regional office letter of July 16, 1980 to Southern California Edison had been addressed by the licensee. (OI 80-34-06)

8. Review of Emergency Procedures for Coping with ATWS events at Operating Power Reactors (TI 2515/46).

The inspector reviewed the licensee's procedure, S-3-5.33, "Failure of the Reactor to Trip Following a Turbine Trip". The procedure required the licensed operator to manually scram, emergency borate, drive rods in, and trip scram breakers locally, whenever automatic scram was required, but did not function. A licensee representative stated that the title of this procedure would be changed to "Failure of the Reactor to Trip", and operators would be briefed on this change. (OI 80-34-07)

9. Followup on Inspector Identified Items.

a. OI 79-14-01 (Final Report on IE Bulletin 79-17).

The inspector reviewed the contractor's reports and recommendations. A licensee representative stated that these recommendations for greater environmental resistance would be considered. This item is closed.

b. OI 79-14-02 (Switchyard Cutover Design Review).

The inspector noted that this cutover had been completed earlier in the outage, and that the licensee had provided both the Office of Inspection and Enforcement and the Office of Nuclear Reactor Regulation an opportunity to review it. This item is closed.

c. OI 79-17-02 (Revision of Reactor Power Calculation Procedure).

The inspector observed that this procedure had been revised and that it was more explicit, as requested. This item is closed.

d. OI 80-02-03 (Chronically Leaking Feedwater Snubbers).

The inspector observed that the snubbers in question now exhibit normal leak tightness. This item is closed.

e. OI 80-02-04 (Plant Status Awareness Program).

The inspector observed that Task Action Plan Requirements for a Nuclear Data Link had made this item obsolete. This item is closed.

f. OI 80-09-05 (Requirements for 12KV Tie Line Operability).

The inspector informed the licensee that this tie line was part of the approved fire protection plan, and its operability would be required whenever the unit was not in cold shutdown, except for brief time periods no longer than that allowed for other fire protection system components to be inoperable. The inspector noted that this position might change in the future to the extent that Appendix R to 10 CFR 50 mandated additional safe shutdown systems at Unit 1. This item is closed.

g. OI 80-16-02 (Revision of Shutdown Margin Calculation Procedure).

The inspector verified that this revision had been performed to make the procedure more explicit, as requested. This item is closed.

h. OI 80-16-05 (Formalization of the Use of Miniature Watch Engineer's Tags).

The inspector verified that this action had been completed. This item is closed.

i. OI 80-32-05 (Raw Data for TAP III.D.1.1 Unavailable)

A licensee representative stated that the component-by-component leak rate data for all miscellaneous potentially radioactive systems outside of containment had not been retained. This item is closed.

j. OI 80-31-07 (Large Quantities of Visqueen Present in Containment).

The inspector observed that the amount of Visqueen present had been substantially reduced, and that it no longer appeared to be a smoke hazard in a fire. This item is closed.

10. Exit Interview

An exit interview (Paragraph 1) was held on December 29, 1980 to summarize the scope and findings of this inspection. In addition the inspector noted that responsibility for the review of allegations by a station electrical worker of unsafe electrical work practices at Unit 2 had been transferred to the State of California Occupational Safety and Health Administration (CAL-OSHA). No further inspection of these allegations by the Resident Inspector is planned.