U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-206/82-32

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

Licensee: Southern California Edison Company

P. O. Box 800

Rosemead, California 91770

Facility Name: San Onofre Unit 1

Inspection at: San Onofre, California

Inspection conducted: October 1 - 28, 1982

Inspectors: D. F. Kirsch 11/9/82
for L. Miller, Senior Resident Inspector, Unit 1 Date Signed

D. F. Kirsch 11/9/82
for A. Chaffee, Senior Resident Inspector, Unit 1 Date Signed

Approved by: D. F. Kirsch 11/9/82
D. F. Kirsch, Chief, Reactor Projects Section No. 3 Date Signed
Reactor Projects Branch No. 2

Summary:

Inspection on October 1 - 28, 1982 (Report No. 50-206/82-32)

Areas Inspected: Routine, resident inspection of plant operations during long-term shutdown; monthly maintenance and surveillance activities; follow-up of Licensee Event Reports, inspector identified items, and regional requests. This inspection involved 81 inspection-hours by one NRC inspector.

Results: In the six areas inspected, two items of noncompliance were identified: Failure to provide continuous fire watch - Severity Level 5 (Paragraph 2) and failure to control open flame processes as required - Severity Level 5 (Paragraph 2).

DETAILS

1. Persons Contacted

*H. Ray, Station Manager
*J. Curran, Manager, Quality Assurance
*D. Nelson, Project Manager, Unit 1
*P. Croy, Manager, Compliance and Configuration Control
*B. Katz, Station Technical Manager
*D. McCloskey, Emergency Preparedness Manager
*N. Dickinson, Construction Superintendent, Unit 1
*G. McDonald, QA/QC Supervisor, Unit 1
*W. Moody, Deputy Station Manager

The inspector also interviewed other licensee and contractor personnel during this inspection.

*Denotes those attending the exit interview on October 28, 1982.

2. Inspection of Plant Operations During Long-Term Outage

The inspector frequently observed Control Room operations for proper shift manning, adherence to procedures and limiting conditions for operation, and appropriate recorder and instrument indications. To determine operator awareness of plant status, the inspector discussed the status of annunciators with Control Room operators and observed shift turnovers. Selected morning meetings were attended to assess the licensee's outage coordination.

The Control Operator's log was reviewed to obtain information on plant conditions and to determine whether regulatory requirements had been met. Other logs, including the Watch Engineer's Log, were also reviewed several times. Selected maintenance orders for the current month were reviewed. The licensee's system for identifying equipment deficiencies appeared to be functioning adequately. The equipment control, jumper, and clearance records were audited, and tags for the south component cooling water pump and boric acid injection pump were verified to have been hung properly.

The inspector frequently toured the accessible areas of the facility to assess equipment conditions, radiological controls, security, housekeeping, and fire protection.

The inspector's tours indicated that controlled area access points were generally safe and clean. Several Radiation Exposure Permits were reviewed for completeness. Surveys of low specific activity material were observed including the contaminated sand discovered around an abandoned sewer tank reported by the licensee on October 1, 1982, and appeared adequate.

No potentially contaminated material was observed in spotchecks of garbage containers. Selected radiation measuring instruments in use appeared operable and were in calibration.

Manning of security posts, integrity of protected area barriers and isolation zones, conduct of search procedures, and personnel identification measures were all observed at intervals by the inspector.

The inspector observed, on Friday, October 8, 1982, a sixteen wheel truck parked outside the Unit 1 protected area fence, approximately eight feet inside the twenty foot exclusion area. The truck was unattended although, the watch tower guard (approximately one-hundred feet from truck) did have the truck under surveillance. This condition existed for approximatley forty minutes. The licensee stated that the lengthy period this condition existed was due to the watch tower guard's inability to determine whether the truck was parked inside the exclusion area or not. This, the licensee stated, was due to the lack of a twenty foot line marking the exclusion area boundary in the area the truck was parked (the truck was parked in front of the Unit 1 north protected area gate). The licensee installed the exclusion area marking line on October 15, 1982. This item is closed.

Plant housekeeping improved generally during this period, despite continuing extensive construction activities. The specific concerns noted in the previous resident inspection were verified to have been corrected on a tour with the Unit Superintendent on October 13, 1982. A unit housekeeping coordinator with specific responsibility for housekeeping was appointed and commenced housekeeping inspections. This item is closed. (OI 50-206/82-26-02).

The inspector investigated information on October 4 that several small fires had occurred in the previous month in the 4KV Switchgear Room and the Lube Oil Reservoir Area and confirmed that small fires had occurred on September 9, 13, 19, 28, October 1 and 4, 1982 due to welding which ignited small amounts of combustibles left in the work area (for example, rope, duct tape, and paper trash). The inspector informed the licensee of these concerns and the Superintendent agreed to investigate and take measures to reduce the frequency of these fires. It was noted that all of the fires had been promptly controlled without any damage to the plant. However, later in this period the inspector observed that some work continued to neglect possible fire hazards: on October 5 and 6, welders were observed in the northeast corner of the lube oil reservoir welding supports to cable trays containing unprotected safety related cables; on October 7 and 13, workers were observed grinding and grinding sparks were showering continuously into unprotected cable trays in the 4KV Switchgear Room. Technical Specification 6.8.1 and Fire Protection Procedure SO123-XIII-14, "Fire Prevention During Open Flame Processes," require that all areas adjacent to the work area be protected in appropriate ways against possible fire hazards. The incidents discussed above appear to indicate a continuing failure to provide appropriate protection. This is a Severity Level 5 violation (OI 50-206/82-32-01).

At the Exit Interview a licensee representative explained the program of corrective action, initiated in late September, which was nearing completion. This program includes assignment and training of several workers as fire marshalls, with authority to stop fire hazardous work, and the training of 300 trade workers as fire watches. A documented review of each fire which occurs, however small, is made. This item remains open pending future examination of the effectiveness of these measures in reducing open flame hazards and fires.

At 3:45 a.m., on October 12, 1982, the inspector observed that the lube oil reservoir area was not manned with a continuous fire watch as required by Technical Specification 3.14 B(2)a. This fire watch post had been assigned by the licensee for several weeks because the foam spray and cable tray sprinkler systems were disabled due to construction work in the area. The inspector located the assigned fire watch in the 4KV Switchgear Room. The worker acknowledged that he was assigned to that position. This failure to continuously establish a fire watch in the lube oil reservoir area is a Severity Level 5 violation. (OI 50-206/82-32-02).

Since this occurrence, the licensee has reported (LER 82-025) two other instances, in the 4KV Switchgear Room and Containment, where continuous fire watches required were temporarily abandoned. The inspector discussed these events with representatives of the licensee's emergency preparedness and quality assurance groups to determine the licensee's plans to prevent recurrence. At the Exit Interview, a licensee representative stated that, as immediate corrective action, the involved workers had been either terminated or reprimanded and all fire watches had been readvised of their responsibilities. The representative also stated that additional corrective action would be considered.

3. Monthly Maintenance and Surveillance Activities

The inspector witnessed portions of the following activities:

a. Excavation for Auxiliary Feedwater Tank
b. Hydrostatic Test of Lower Component Cooling Water Heat Exchanger
c. Steam Generator Sample Chloride Titration
d. HV-851A (Safety Injection Discharge Valve) Disc Inspection
e. No. 1 Diesel Generator Testing
f. Concrete Placement in the Auxiliary Feedwater Tank Pipe Trench
g. Electric Auxiliary Feedwater Pump Operability Test

The inspector determined that procedures used for these activities were consistent with applicable limiting conditions for operation, clearances were obtained where necessary for protection of equipment and personnel, necessary tools were properly calibrated and used, and the activities were properly authorized.

No items of noncompliance or deviations were noted.

4. Followup on Inspector Identified Items (OIs)

a. (Open) (50-206/82-26-04): Refueling Water Storage Tank Replacement

The inspector attended the October 14, 1982 On Site Review Committee meeting at which licensee personnel reviewed this proposed replacement. The inspector noted that the On Site Review Committee conditionally approved the proposal, subject to substantial revisions, and discussed aspects of the proposal with licensee representatives and the Office of Nuclear Reactor Regulation. At the Exit Interview, the inspector explained that review of this activity could not be completed until a definitive proposal existed. The inspector requested that the licensee: provide drawings of the modifications planned, temporary and permanent, to the saltwater cooling system (including P&ID, electrical elementary, and isometrics); provide copies of approved operating and emergency instructions for any new system configurations to be used; provide civil and mechanical analyses for the modified system, including temporary piping and permanent piping in proximity to the excavation; describe measures which will be used to avoid damage to the system resulting from a loss of control of heavy construction loads (e.g. a course of the refueling water storage tank, or structural material from the circulating water pit modification), or from excavating; and describe any other planned concurrent work affecting the operability of salt water cooling system, including its expected schedule and duration. A licensee representative stated that this information would be provided.

b. (Open) (50-206/81-42-01): Drawing Reverification Program

The inspector reviewed with licensee personnel the progress of the drawing reverification program. These personnel reported that the electrical drawing comparison portion of the program was requiring more time to complete than forecast, and would not be completed (for the highest priority drawings) until March, 1983, a three month delay. The inspector reviewed schedular information and selected examples of work in progress, and concluded that acceptable progress was being attained.

The inspector determined that deficiency documentation, of drawing errors discovered during field verification of non safety-related piping drawings, were not being developed. The inspector requested the licensee to consider using such documents in some form. Licensee personnel agreed to revise the verification program to develop a listing and short evaluation of all drawing deficiencies identified in non-safety related drawings. Safety related drawing deficiencies will continue to be resolved with a Nonconformance Report.

c. (Open) (50-206/82-20-03): Control of Surveillance Program

The inspector reviewed a licensee letter dated October 15, 1982 which delayed a commitment to review newly issued license amendments. The inspector discussed this delay with licensee personnel and questioned why further delay in correction of this programmatic weakness was necessary. A licensee representative explained that the delay was to integrate the required procedural changes with other changes that were also planned. The inspector requested that, pending the development of the revised procedure, specific responsibilities for implementation of license amendments be assigned. The inspector reviewed a Memorandum for File, dated October 27, 1982, which adequately assigned these responsibilities. This item remains open pending completion of the other commitments associated with this open item.

No items of noncompliance or deviations were identified.

5. Followup on Licensee Event Reports (LERs)

a. (Closed) LER 82-024: POV-6 Inadvertent Operation

The inspector reviewed this report, which discussed the unexpected opening of POV-6, the south salt water cooling pump discharge valve, on August 13, 1982. The event resulted in a momentary reduction of saltwater cooling flow and water hammer in the system. The inspector concluded that the report accurately reported the event, and that the corrective action proposed was adequate. The corrective action proposed, a study to improve valve operation and additional operator training, will be reviewed as open item 82-24-01, an earlier licensee commitment. The inspector noted that subsequent to this event, on October 13 and 29, POV-6 again malfunctioned, due to a malfunctioning pressure switch, in one case, and operator error, in the other. In both of these incidents there were no adverse effects on saltwater cooling flow because the north saltwater cooling pump remained in service.

b. (Closed) LER 81-25: Containment Isolation Valve Failure

The inspector reviewed this report dated October 6, 1982, which clarified earlier reports of the failures of CV-107 and CV-534 to operate. The inspector concluded that the reports accurately reported the the event, and that the corrective action taken to prevent recurrence was adequate.

c. (Closed) Special Report of September 17, 1982: Inoperable Fire Detectors

The inspector reviewed this report and concluded that the licensee's corrective action was adequate.

d. (Closed) LER 82-023: Damage to Unit 1 Fire Water Intertie to Units 2/3

The inspector reviewed this report, discussed it with licensee personnel, and inspected the affected area. The inspector confirmed that no regulatory fire protection requirements were violated, and concluded that adequate corrective action had been taken. The inspector noted that the damage to the fire main intertie could have been avoided with more careful excavation. A licensee representative acknowledged this comment.

e. (Closed) Special Report of October 22, 1982: Refueling Water Storage Tank Draining

The inspector reviewed this report, discussed it with licensee personnel, and determined that the fire hose station inside the sphere was inoperable as well as the containment sprinkler system. The sprinkler system is designed to protect the reactor coolant pumps and the residual heat removal pumps. In this case, Technical Specification 3.14.B(2)a requires the licensee to supply "backup fire suppression equipment for the unprotected area(s)" whenever the sprinkler system is inoperable. In addition, Technical Specification 3.14.B(3) requires the licensee to "route an additional equivalent capacity fire hose to the unprotected area from an operable hose station within one hour," whenever the hose station is inoperable. Licensee personnel had interpreted the requirements of both of these action statements to be satisfied by the provision of a single 1½" fire hose strung through the containment equipment hatch to the inoperable fire hose station. The inspector stated that this probably did not meet the intent of these requirements, but acknowledged the ambiguity of the requirement. A licensee representative agreed to provide a 2½" fire hose capable of reaching the residual heat removal pumps in addition to the 1½" fire hose already provided to backup the inoperable fire hose station. The inspector stated that this commitment was acceptable.

No items of noncompliance or deviations were identified.

6. Followup on Regional Requests

a. On October 7, 1982 the inspector walked down portions of the hydrogen system piping from the hydrogen tanks to the turbine generator gas manifold and along the branch line to the volume control tank until it exited the turbine building. The inspector observed that the 3/4" line to the volume control tank was run directly underneath safety related cable trays (49P2 and 4931), within 2" of these cable trays at some points. In addition, the line was loosely supported over much of its length with several supports evidently missing, and an unusual bend near connection box JBx 4N (west turbine building extension wall). The inspector suggested that this line appeared to be in need of repair or relocation. A licensee representative stated that a Nonconformance Report had been issued to investigate the condition of this line as a result of the inspector's observation. This item remains open pending review of the licensee's corrective action. (OI 50-206/82-32-03).

b. On October 21-22, 1982 the inspector selected ten spots on outdoor pipes on the west side of the facility, which appeared noticeably corroded. Nine of these were from piping systems, and one was a fixed piping support. Seven of the locations were on safety related systems. The inspector requested the licensee to measure the wall thickness of these pipes by ultrasonic testing to determine whether or not the corrosion noted was significant. The inspector observed all of this testing, and verified that a calibrated instrument was used by a qualified operator.

The results of the testing indicated that two of the ten spots had wall thicknesses reduced in excess of 12.5% from the nominal wall thickness. One of these (27% reduction) was part of the steam generator blowdown piping, a nonsafety related system, and the other (16% reduction) was part of the refueling water recirculation loop outside containment, a safety related system. Neither system was in service and no leakage was apparent. Licensee personnel presented results of pressure stress calculations which indicated that no overstress of these pipes would occur due to pressure stress loads only.

One additional point of the ten is still being researched by the licensee to determine the nominal wall thickness (cement-lined cast iron pipe used in the salt water cooling system).

A licensee representative stated that these discrepancies had been documented on nonconformance reports and that appropriate corrective action would be taken. This item remains open pending review of this corrective action. (OI 50-206/82-32-04).

The NRC is currently carrying an open item in the area of pipe corrosion (50-206/80-31-04) wherein Bechtel is evaluating the potential for corrosion in stainless steel pipe due to the saltwater environment at the plant. This area is currently under NRC review to ascertain the licensee's progress in the implementation of the Bechtel recommendations.

No items of noncompliance or deviations were identified.

7. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) on October 28, 1982, to summarize the scope and findings of this inspection. The licensee acknowledged the violations identified in this report and discussed the corrective action under consideration to prevent recurrence.