U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-361/82-12

Docket No. 50-361 License No. NPF-10 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 Clemente, California

Inspection conducted: March 29 - April 16, 1982

Inspectors: D. F. Kirsch 5-4-82
D. F. Kirsch, Reactor Inspector Date Signed

for D. F. Kirsch 5-4-82
M. M. Mendonca, Reactor Inspector Date Signed

for D. F. Kirsch 5-4-82
G. H. Johnston, Reactor Inspector Date Signed

Approved by: G. B. Zwetzig May 5, 1982
G. B. Zwetzig, Chief, Reactor Projects Section 1 Date Signed
Reactor Operations Projects Branch

Summary:

Inspection from March 29 - April 16, 1982 (Report No. 50-361/82-12)

Areas Inspected: Routine, unannounced inspection of the licensee's actions on previously identified items and IE Bulletins and Circulars; TMI Action Plan requirements; QA program for operations in the areas of Surveillance Testing and Calibration Control, Design Changes and Modifications, and Maintenance; Technical Specifications Compliance; Safety Committee activities; Nonroutine Event Review; conduct of the overall startup test program; compliance with the license and technical specifications as related to startup testing; housekeeping; and operability testing of equipment returned to service.

The inspection involved 176 inspector-hours by three NRC inspectors.

Results: Of the thirteen areas inspected, no violations or deviations were identified in twelve areas. One violation was identified in the area of design changes and modifications (failure to fully implement procedures governing Temporary Modification Control - paragraph 5.b.(2)).

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DETAILS

1. Persons Contacted

+*H. B. Ray, Station Manager
+ R. N. Santosuosso, Manager, Maintenance
+ P. A. Croy, Manager, Configuration Control and Compliance
+*D. B. Schone, Project Quality Assurance Supervisor
+*B. Katz, Assistant Station Manager, Technical
 *F. Briggs, Compliance Engineer
+*C. A. Kergis, Unit 2/3 Operations Quality Assurance Engineer
+*C. H. Welch, Unit 2/3 Operations Quality Assurance Engineer
+*H. Morgan, Assistant Station Manager, Operations
+*W. C. Moody, Deputy Station Manager
  W. Wilczeck, Instrumentation and Control Technician
 *J. M. Curran, Quality Assurance Manager
 *P. R. King, Unit 2/3 Operations Quality Assurance Supervisor
+*M. J. Speer, Compliance Engineer
 *L. Jones, Compliance Engineer
 *J. M. Francis, Compliance Engineer
+ T. A. Mackey, Compliance Engineer
+ A. E. Talley, Manager, Material and Adminstrative Services
+ T. D. Garven, Lead Unit 2/3 Operations Quality Assurance Engineer
+ M. P. Short, STA Supervisor
  D. Stonecipher, Construction Quality Assurance Supervisor
  W. Kirby, Quality Assurance Engineer

The inspectors also interviewed other licensee employees during the course of the inspection. These included Operations, Instrumentation and Control (I&C), Quality Assurance (QA) and Maintenance personnel.

*Denotes those individauls attending the exit interview on April 2, 1982.
+Denotes those individuals attending the exit interview on April 16, 1982.

Also present at the exit interviews was A. E. Chaffee, Unit 2 Senior Resident Inspector.

2. Licensee Action on Previous Inspection Findings

a. (Closed) (50-361/81-28-01 and 82-10-01) Followup Item: Incorporation of Technical Specification Changes into Procedures Governing Safety Committee Activities

The inspector verified that the licensee had incorporated Technical Specification changes into procedures governing safety committee activities. The procedures governing safety committee activities, which were examined, are documented in paragraph 7 of this report.

b. (Closed)(50-361/81-28-03) Followup Item: Inadequate Procedure Review Process

In response to the inspector's findings of procedural inadequacies, errors and inconsistencies the licensee:

- Established a procedures group to assure incorporation of all appropriate reviewer comments and completion of reviews.
- Extensively utilized consultant and station manpower to accomplish additiona. , cedure reviews to correct inadequacies.
- Promptly incorporated applicable comments generated as a result of the additional reviews.

The licensee's review of surveillance procedures is a continuing effort to assure readiness for changes in Operating Modes.

c. (Closed) (50-361/81-28-05) Followup Item: Procedures Failed to Address Adherence to Chemical and Reagent Manufacturers Recommended Shelf Life

The inspector examined Station Order S0123-III-0.7 (Laboratory Chemical and Reagent Storage and Shelf Life) and found that controls covering shelf life and storage conditions were adequately specified.

d. (Open) (50-361/81-28-06) Followup Item: Failure to Establish a System to Control and Inspect Rigging and Handling Equipment

Since the previous inspection of this area, the licensee had established a program governing the handling and inspection of rigging and handling equipment. The inspector reviewed several procedures in this area and observed certain programmatic inadequacies in the implementation of ANSI B30.2.0, B30.9, and B30.10. The licensee agreed to reexamine the procedures, and revise them as necessary to appropriately implement industry standards. This item will be examined further during a future inspection.

e. (Closed) (50-361/81-28-08) Followup Item: Procurement Procedure Deficiencies

The inspector previously identified several deficiencies in the licensee's procedures relating to the procurement of safety-related items, and documented these findings in NRC Inspection Report No. 50-361/81-28. During this inspection the inspector reviewed the following documents and determined that all identified deficiencies had been corrected.

- E&C 37-26-15: Procurement of Items and Services for SONGS 2 and 3
- SO123-XI-1.15: Publication of the Master SONGS 1, 2 and 3 Level I List
- SO123-I-1.16: Safety-Related Commodities List
- Safety-Related Commodities List
- Level I List

The revised procedures were in the final stages of document approval. Based on the licensee's assurance that these procedures would be issued in substantially the form reviewed by the inspector, this item is closed.

f. (Closed) (50-361/81-28-09) Followup Item: Station Procedures Controlling Measuring and Test Equipment (M&TE) Need Revision to Adequately Specify Station Responsibilities

The inspector had previously observed that, since Bechtel controls the calibration and recall of M&TE, station responsibilities for M&TE were limited. However, station procedures prescribed that station user organizations were required to perform many of the same activities being performed by Bechtel.

The licensee had appropriately revised some of the station procedures to adequately address and limit station responsibilities; however, additional organizational procedures require the same revision. The licensee's QA organization agreed to track this activity to completion.

g. (Closed) (50-361/81-28-11) Followup Item: Inadequate Program to Assure Compliance with Technical Specification Surveillance Requirements

The inspector examined the following procedures to assure that a program had been developed to accomplish the surveillance testing, calibration, and inspections required by the Technical Specifications (TS) and the ASME B&PV Code, Section XI.

- SO23-G-3, Revision 4, "Technical Specification Surveillance Requirements"
- SO23-IC-3, Revision 2, "Surveillance Requirements of the I&C Department"

- SO23-E-3, Revision 1, "Engineering Surveillance Requirements"
- SO23-Ø-3, Revision 4, "Operator Surveillance Testing Requirements"
- SO23-S-3, Revision 1, "Technical Specifications Surveillance Requirements Performed by Station Security"
- SO23-M-3, Revision 2, "Maintenance Section Technical Specification Surveillance Requirements"
- SO123-C-3, Revision 0, "Chemistry Section Technical Specification Surveillance Requirements"
- SO23-G-17, New, "Technical Specification Surveillance Requirements for Change in Operating Mode"
- Numerous surveillance procedures for accomplishing specific TS surveillance requirements and inservice examination requirements.

Based upon the above review, and previous reviews conducted in this area (documented in NRC Inspection Reports 50-361/81-28, 82-01, and 82-08), the inspector concluded that the licensee's program established:

- A master schedule for surveillance testing/calibration/inservice inspection, including frequency requirements, assignment of groups responsible for conducting each test/calibration/inspection, and a method and responsibility for tracking test status.
- Formal requirements for conducting surveillance tests, calibrations, and inspections in accordance with approved procedures, including acceptance criteria.
- Formal methods and responsibilities for review and evaluation of test data and the reporting of identified deficiencies.
- Responsibilities for assuring that scheduled tests and inspections are completed or appropriately rescheduled.

Based on these findings, this item is closed.

h. (Closed) (50-361/81-28-12) Followup Item: Programmatic Inconsistencies in Procedures Governing Design Changes and Modifications

The inspector had previously identified several inconsistencies in procedures controlling design changes and modifications and documented these in NRC Inspection Report No. 50-361/81-28, paragraph 7.j. The licensee's corrective actions were examined. All but one minor concern had been adequately resolved and the licensee's QA organization was tracking that item to completion. This item is closed.

i. (Closed) (50-361/81-28-14) Followup Item: Out-of-date Work Authorization Procedure in Control Room Controlled Document File and Inadequate Operator Awareness of Procedure Requirements

The inspector examined the revision status of Procedures S023-0-12, 13, 23, and 24 in the controlled document file, located in the Control Room, and discussed work authorization procedural requirements with control operators. The procedures were found to be up-to-date and the operators indicated that supplementary training had been provided on the work authorization system. The control operators appeared to be aware of work authorization procedure requirements. Based on these findings, this item is closed.

j. (Closed) (50-361/82-08-01) Followup Item: Methodology Used in Determining Safety-Related System Leakage

The inspector had previously questioned the effectiveness of the licensee's methods for verifying the integrity of reactor coolant system (RCS) mechanical connections which had been disassembled since performance of the last hot functional test.

The licensee stated that in order to assure compliance with the ASME B&PV Code, Section XI, paragraph IWV-3200 (regarding mechanical connections which may have been disassembled for repairs/corrective maintenance or replacement), the following actions would be taken on all code applicable safety-related systems under normal operating conditions.

(1) Walkdown and visually inspect each safety-related system to assure there is no leakage from pressure retaining components (i.e., mechanical joints).

(2) Perform inspections and document results in accordance with Section XI by VT-2 qualified personnel.

This item is closed based on the commitment made by the licensee's QA organization to follow and assure completion of the above commitments.

3. Licensee Action on IE Bulletins and Circulars

a. (Closed) Circular 80-01: Service Advice for GE Induction Relays

The inspector examined the licensee's actions regarding this circular and found the actions to conform to those recommended by the circular and GE advice.

b. (Closed) Bulletin 81-02: PORV Isolation or Block Valve Failure Against Differential Pressure

The licensee identified two valves that were addressed by this bulletin. These valves have been modified by Westinghouse and have undergone flow testing per the bulletin to verify closure. Three other valves were identified in storage as spares designated for use in safety-related systems as active valves. At present, these valves are being controlled by a nonconformance report pending modification to allow their use as spares for designated safety-related valves.

4. TMI Action Plan Requirements

a. (Open) Items I.C.1, Guidance for the Evaluation and Development of Procedures for Transients and Accidents, I.C.7, NSSS Vendor Review of Procedure, and I.C.8, Pilot Monitoring of Selected Emergency Procedures for Near-Term Operating License Applicants

Per the requirements of Safety Evaluation Report (SER) Supplement No. 5 the licensee has established emergency procedures that were based on interim guidelines from Combustion Engineering (CE). Selected procedures have been reviewed. The reviewed procedures are associated with steam generator tube rupture, loss of feedwater flow, anticipated transients without scram, and reactor trip with safety injection. In addition, the requirements of SER Supplement No. 2 for (1) redundant thermocouple indication in the control room, (2) criteria for starting a reactor coolant pump if no other means of core cooling are effective, (3) analysis for alternate means of feedwater flow, and (4) cooldown criteria for inadequate core cooling have been verified to be in place. Further, incorporation of selected items from the pilot monitoring program have been verified to be in place.

The following items remain to be verified:

(1) Final procedures are consistent with NRR-accepted guidelines per the requirements of the license,

(2) CE has reviewed selected emergency procedures and that CE's comments are appropriately incorporated, and

(3) Operators have been trained.

b. (Open) Item I.D.1, Control Room Design Review

The prioritization of annunciator windows has been verified. The balance of the required modifications remain to be verified.

c. (Open) Item I.G.1, Special Low-Power Testing and Training

The test procedures for this item have been reviewed. The licensee is in the process of finalizing the training program, i.e., coordinating the startup tests with the CE training programs. The final training program review remains to be completed and portions of the tests must be observed.

d. (Closed) Item II.B.1, Reactor Coolant System Vents

Based on a review of design documents, the RCS vents have been verified to be smaller than the LOCA definition, and to be seismically and environmentally qualified. By Control Room observation, vent valves were verified to have position indication and to be operable from the Control Room. Based on a system walkdown, the vents were verified to be powered from emergency sources, to be single failure proof and, for the vent path to the containment, it was verified that the release was to an area which would provide good mixing with the containment air. Based on discussions with startup personnel, the inspector concluded that the vent valves had been tested and verified to be operable. This item is closed.

e. (Closed) Item II.B.4, Training for Mitigating Core Damage

The lesson plan for this training has been reviewed by the inspector. When combined with the normal training on plant instrumentation, the inspector concluded that the training contains an acceptable presentation of the topics required in SONGS SER Supplement No. 1. Finally, it was verified that this training had been given to all licensed operators. This item is closed.

f. (Open) Item II.E.1.1, Auxiliary Feedwater System Reliability Evaluation

The inspector verified that:

(1) Procedures for transfer to alternate water sources are available to the operator;

(2) After a system outage, an operator is required to determine proper valve alignment and a second operator is required to verify the determination;

(3) Following cold shutdown, a flow test is required to verify the proper flow path from the primary water source to the steam generators;

(4) Redundant indication of flow is available in the Control Room; and

(5) A procedure requires verification of the status of locked open manual valves by monthly surveillance.

The following items remain open:

(1) Verification that the feeding Integrity Test, 2HB-201-01, for refill of the steam generator to prevent water hammer, shows acceptable results (test 2HA-201-01 has already demonstrated that the remainder of the system is acceptable); and

(2) Verification that there is an acceptable test procedure for a 48-hour pump run per SER Supplement No. 1. (pp. 22-69 and 22-70).

g. (Open) Item II.K.3.5, Automatic Trip of Reactor Coolant Pumps During LOCA

The licensee is continuing to study the subject of automatic RCP trip on LOCA indication per SER Supplement No. 1 (pg 22-120). In the interim, the licensee has implemented a procedure for manual trip. The value of the setpoint pressure, for this manual trip is currently being revised.

The resolution of this item will be examined during a future inspection.

h. (Open) Item III.D.1.1, Integrity of Systems Outside Containment Likely to Contain Radioactive Material

The licensee's procedure for determining the leakage of the Safety Injection systems, Containment Spray system, and the post-accident sample lines has been reviewed. The initial test will be conducted prior to full power operation and at each refueling outage. Initial test results will be examined during a future inspection.

5. Quality Assurance Program for Operations

a. Surveillance Testing and Calibration Control

(1) Program Review

The inspector examined Station Order SO23-IC-4 (I&C Master Schedule for Control of Surveillance Testing-Calibration and Inspection) to ascertain the adequacy of the licensee's

program for calibration of safety-related instrumentation and components not identified in the Technical Specifications. The inspector determined that the licensee's program:

- Establishes a calibration frequency for each component, assigns responsibility for performing calibration and tracks calibration status.
- Assigns responsibility for maintaining the master calibration schedule and assuring calibration schedules are current.
- Establishes formal requirements and procedures to accomplish the required calibrations.

No items of noncompliance or deviations were identified.

(2) Program Implementation

The inspector examined the calibration procedures and calibration data for the following instruments and instrument loops to ascertain compliance with Technical Specification and procedure requirements.

- Pressurizer pressure - including proportional heaters, backup heaters, spray valve, high pressure trip, and low pressure trip.
- Shutdown Cooling Isolation Valves - automatic closure setpoint and manual operation inhibit interlock.
- Safety Injection Tank Isolation Valves - automatic open setpoint.
- Refueling Water Tank (T005 and T006) Level.
- Diesel Generator No. 1 Fuel Oil Day Tank Level.
- Safety Injection Tank No. 1 Level.
- Pressurizer Level.
- Boric Acid Tank No. 1 Level.
- Steam Generator No. 1 Level.
- CVCS Boric Acid and Pure Water Flow.
- Shutdown Cooling System Flow.

No items of noncompliance or deviations were identified.

b. Design Changes and Modifications

(1) Program Review

The inspector examined the licensee's program for controlling Temporary Modifications by reviewing the following documents:

- S023-0-12: Station Logs
- S023-0-13: Work Authorization
- S023-0-16: Temporary Modification Control
- S023-0-23: Equipment Status Control
- S023-0-24: Redundant and Operability Testing Requirements

Based upon this review, the inspector concluded that the licensee's controls established requirements to assure that:

- Temporary modifications are reviewed and approved as required by Technical Specifications and 10 CFR 50.59.
- Detailed procedures are used when performing temporary modifications.
- Responsibility is assigned for approving the detailed procedures.
- A formal record of the status of temporary modifications is maintained.
- Independent verification is provided for the installation and removal of temporary modifications.
- Procedures require functional testing of equipment (Note: Problems with the implementation of these controls are documented in paragraph 12b. of this report).
- Periodic reviews of the temporary modifications log are required.

As a result of this review, the inspector identified the following administrative inconsistencies and omissions:

- S023-0-16 did not contain instructions for entry of information into the Abnormal Equipment and Circuits Log as required by S023-0-12, paragraphs 6.3.5.1 and 6.2.5. In response to this finding, the license stated that S023-0-12 would be revised to resolve this item.

- SO23-O-24 was not referenced by SO23-O-16 for operability testing of restored modifications. Further, operability testing of restored modifications was not addressed by SO23-O-16. (See discussion in paragraph 12.b)

- Tagging of system operating devices, under temporary modification control, was restricted by procedure to the Control Room only. In response to this finding, the licensee indicated that tagging requirements would be extended to other plant areas.

- Many items in the temporary modifications log were more than one month old without having been restored to normal status. In response to this finding, the licensee agreed to evaluate and implement controls requiring more prompt restoration to as-designed conditions. In addition, due to the large number of entries in the log, the licensee agreed to evaluate their periodic review policy to enhance operator awareness and facilitate more agressive management action to restore the plant to as-designed conditions.

No items of noncompliance or deviations were identified.

(2) Program Implementation

The inspector examined several unrestored and restored temporary modifications in the temporary modification log to ascertain the degree of compliance with established controls. In addition, two cabinets each in the Reactor Protection System, the Emergency Safety Features System, and the Diesel Generator System were examined to verify that electrical jumpers or lifted leads were installed as logged in the temporary modifications log.

Based on the foregoing, the inspector identified the following instances of noncompliance with established administrative procedures.

Procedure SO23-O-16, Revision 3 (Temporary Modification Control), dated January 21, 1982, prescribes as follows:

- Paragraph 6.1.1.3 states, SO(123)106, "Temporary Modification Control Form," and SO(123)562, "Equipment Control Form," shall be forwarded to the Supervisor of Plant Coordination for evaluation...."

. Paragraph 6.1.1.5 states, "The on-shift Watch Engineer shall make the final approval of the temporary modification after reviewing the Temporary Modifications Control Form, SO(123)106, and the Equipment Control Form, SO(123)562, by signing Item 8." Item 8 indicates "Watch Engineer Approval for Installation."

. Paragraph 6.4.5 states, "A yellow magnetic tag with the words 'Temporary Modification-Number' shall be placed adjacent to the equipment control switch in the control room."

. Paragraph 6.5.2 states, "The Watch Engineer shall authorize normalization by signing the Temporary Modifications Control Form (Item 11)." Item 11 indicates "Watch Engineer Approval for Restoration."

Contrary to the above requirements, on April 14, 1982, the following conditions were identified:

(a) On March 14, 1982, electrical jumpers were installed across LS-16 to allow starting of Salt Water Cooling pumps 2P114 and 2P307 when the normal discharge valve was closed and the emergency valve was open. Equipment Control forms could not be located, and apparently were not completed, for either of these Temporary Modifications. In addition, no tags, magnetic or otherwise, were placed adjacent to the equipment control switches in the control room.

(b) The Equipment Control Form was apparently not completed for the installation of a temporary lamp holder and lamp on the chlorine Toxic Gas Isolation System "Power On" indicator. The Temporary Modification Control Form was issued on April 2, 1982.

(c) The Watch Engineer apparently had not authorized normalization of the following temporary modifications, on the dates indicated, by signing the associated Temporary Modification Control Forms, Item 11.

. Restoration of modifications, on February 17, 1982, to return to service the Containment Spray Heat Trace Alarm Annunciator window 61A04 by removing jumpers across terminals 1431 and 1431AP at panel 2L040.

- Removal of a temporary valve, on February 18, 1982, installed on Safety Inspection Pump 2P015 seal pipe line.

- Removal of a temporary valve, on February 18, 1982, installed on Safety Injection Pump 2P016 seal pipe line.

Since implementation of procedures for control of temporary modifications is required by Technical Specification 6.8.1.a, the above instances indicate failure to properly implement these procedures and, hence, appear to be a violation of the Technical Specifications. (50-361/82-12-01)

The inspector also selected 10 design change or modification record packages and verified that:

- Each was reviewed and approved as required.

- Appropriate design input requirements were specified, reviewed and approved and appropriate design verifications had been performed.

- Provisions for post modification acceptance tests had been included.

- Design reviews required by the Technical Specifications had been performed.

- Provisions were made to assure that drawings and plant procedures were updated, and training would be provided to operators prior to turnover.

- Engineering personnel were aware of QA program requirements.

Except as noted above, no additional items of noncompliance or deviations were identified.

c. Maintenance

During the examination of the licensee's maintenance activities, the inspector examined the following procedures and documents:

- SO23-0-19: Use of Contain Tags, Magnetic Tags, and Instrument Labels

- SO23-0-13: Work Authorizations

- SO23-0-23: Equipment Status Control

- SO23-0-24: Redundant and Operability Testing Requirements

- SO123-M-3: Maintenance Section Technical Specification Surveillance Requirements
- SO123-M-4: Preventative Maintenance Program
- SO123-M-5: General Maintenance Order
- SO123-M-6: Welding Program
- SO123-O-114: Equipment Control Program
- SO(123)-562: Equipment Control Form
- SO123-VI-1.5: Station Housekeeping and Cleanness Control
- MPMG206: Maintenance Procedure for Housekeeping and Cleanness Control
- TI-14: Cleanness Verification and Control
- TI-24: Maintenance and Repair
- TI-25: Material Requisition
- TI-28: Startup Nonconformance Reports
- TI-31: Construction Work Order
- SO123-I-7.9: Fire Prevention During Open Flame Processes
- SO23-O-17: Locking of Critical Valves and Breakers

Based on this review the inspector determined that the licensee controls the status of equipment with an Equipment Control Form. This form provides for the determination of whether a particular piece of equipment can be removed from service. The determination includes an evaluation of whether the removal will violate Technical Specifications requirements, whether redundant train testing will have to be done, and the requirement for operability testing prior to the return to service. If these determinations are made, then the appropriate entries are made on the form and, before the form can be closed out, the Control Operator must sign to indicate that the testing was completed. This test is assigned to a Central Equipment Control Center. The tagout of equipment

designated to be in the scope of the Work Order which initiates this process is controlled by procedure S023-0-13 (Work Authorization). The determination of the scope and nature of the tagging is done by the Control Operator. The Watch Engineer has overall authority to control the issuance of a clearance, or authorization to work on any equipment.

The licensee's program to control locked valves and circuit breakers is accomplished through Procedure S023-0-17, "Locking of Critical Valves and Breakers." This procedure lists those valves and breakers requiring their position to be locked in place during normal operations. It prescribes the type of locking device and assigns the authority to control these components to the Watch Engineer.

Procedure S0123-VI-1.5, "Station Housekeeping and Cleanness Control," prescribes the licensee's housekeeping program. It delineates the responsibilities of all station personnel, establishes housekeeping zones, and controls applied during work activities.

The inspector also examined the licensee's program controlling welding and open flame processes. Activities requiring welding or open flame processes are identified by the maintenance planner when the work order is submitted. The work order specifies that a welding and open flame permit must be obtained to commence work activity. These permits are issued only on a daily basis and must be renewed for each day. The permit requires a fire watch to be posted during conduct of work and for 30 minutes after the work has ended. It also requires an inspection for ignition sources prior to commencing work and the approval of the Station Fire Marshall.

To verify the implementation of the licensee's preventive maintenance program, the inspector selected a sample of fire prevention maintenance activities. For each of these activities, the inspector examined the available documentation to verify that the activity met the scheduled interval, and that the required activity was completed as prescribed.

To verify that routine corrective maintenance activities were being conducted as required by the licensee's corrective maintenance program, the inspector examined three completed activities and for each activity verified the following:

(1) Work orders were properly initiated, reviewed, and approved.

(2) Procedures appropriate to the activity were reviewed and approved.

(3) Test and measurement equipment to be used was identified.

(4) Inspections were performed and documented.

(5) Testing was performed following the work to verify the functional capability of the system affected.

(6) The cause of the malfunction was identified and documented.

(7) The corrective action taken was documented.

(8) The personnel involved were identified.

(9) Materials and parts procured for the work were identified in the work package.

(10) That the cleanliness of any clean systems were maintained.

(11) That equipment released for maintenance was controlled by the established equipment control program.

To verify that the controls established by the licensee's maintenance program were being utilized, the inspector observed work activity in progress on the train A component cooling water (CCW) heat exchanger. This included examination of the work package, tagging of valves and breakers, and observation of an inspection performed by an ASME Section XI VT-2 qualified inspector on mechanical joints opened during work on the CCW heat exchanger.

The inspector examined qualification records of Bechtel and station maintenance personnel to determine that qualifications were current. The qualifications examined included special process welding techniques. The inspector observed that all qualifications examined were current.

In examining the licensee's program for maintenance of motor-operated valves, the inspector determined that additional licensee effort would be needed to consolidate the information related to this activity. This matter will be examined further during a subsequent inspection (50-361/81-12-02)

No items of noncompliance or deviations were identified in the area of maintenance activities.

6. Technical Specifications Compliance

The inspector verified compliance with Technical Specifications in the following areas.

a. Limiting Conditions for Operation (LCO) and Surveillance

Compliance with several LCOs, and applicable action statements, was verified in the areas of AC Power Sources, DC Power Sources, Fire Suppression Water System, Nuclear Instrumentation System, Shutdown Boration System, Boric Acid Makeup Pump and Charging Pump Operability, Borated Water Sources, Shutdown Cooling System operability and Pressure/Temperature limits. In addition, the inspector verified compliance with selected surveillance requirements.

Two instances were identified wherein the specified acceptance criteria were not met and these facts had not been identified and resolved by the craftsperson performing the surveillance or by supervisory personnel reviewing and approving the surveillance results. In each case, the surveillance results were technically acceptable (one case involved a procedure specifying tighter acceptance criteria than were required, and the other arose where a procedure failed to recognize criteria applicable due to Unit 3 construction). The inspector emphasized the importance of procedure compliance, careful review by supervisory personnel, and the training of personnel on actions necessary in cases where procedures are observed to be in error.

No items of noncompliance with Technical Specification requirements were identified.

b. Administrative Controls

(1) Safety Committees

The inspector examined all documentation of Onsite Review Committee meetings and Nuclear Safety Group (NSG) activities since issuance of the operating license. The documentation verified compliance with Technical Specification requirements regarding meeting frequency, quorum, function, and membership. The documentation of NSG activities was observed to be particularly well written and objective verification of accomplishment of assigned responsibilities was, therefore, enhanced.

No items of noncompliance or deviations were identified.

(2) Design Changes

The inspector examined ten design changes and verified that these were reviewed and approved in accordance with the Technical Specifications and were in compliance with 10 CFR 50.59 requirements.

No items of noncompliance or deviations were identified.

c. Reportable Occurrences

The inspector examined the licensee's handling of LER 82-01 and verified the resolution and reporting were as required by Technical Specifications. LER 82-01 identified damage to the Control Room Ventilation Charcoal beds due to an inoperable fire water system deluge valve.

Examination of the Control Room ventilation charcoal filters by the inspector revealed that the metallic housings contained openings connecting the charcoal beds to the outside atmosphere. When informed of this condition, the licensee's startup organization investigated the circumstances and concluded that the procedure for restoration of the filter housing, following charcoal replacement, did not provide sufficiently detailed instructions to assure proper system restoration prior to turnover to the plant operating staff. In addition, the procedure did not provide for adequate inspection and verification of system conditions prior to turnover. (See also paragraph 12.b.)

Based on these findings the licensee initiated corrective actions to preclude recurrence by requiring a review of system restoration and inspection requirements, whenever generic startup organization procedures are used to accomplish plant replacement/repair activities, to assure proper system restoration prior to turnover. In this particular case, the charcoal filter housing openings were plugged as required by design drawings.

No items of noncompliance or deviations were identified.

7. Safety Committee Activities

a. Program Review

The inspector examined the following procedures governing Safety Committee activities for compliance with Technical Specification requirements:

- SO123-G-1, Revision 2 - Organization and Responsibilities of the Facility Staff and the On Site Review Committee (OSRC)

- E&C 40-9-21 - Nuclear Safety Group Review and Audit Responsibilities for SONGS 2 and 3

- E&C 40-9-22 - Independent Safety Engineering Group (ISEG) Surveillance of Plant Activities for SONGS 1, 2 and 3

- SO123-A-105 - Assignment of Responsibility by Key Personnel

- E&C 40-9-19 - Review of Operating Experience Reports for SONGS 1, 2 and 3

Based on this review, the inspector concluded that, for the onsite and offsite review groups, a written program had been prepared and approved establishing:

- Responsibility and authority for conducting independent reviews.

- Review group membership, alternate membership, quorum requirements and the required meeting frequency.

- Requirements for maintaining and distributing meeting minutes and records of review group activities.

- Requirements to review those topics specified by Section 6 of the Technical Specifications.

- Lines of communication and interfaces between onsite and offsite groups.

As a result of the above review, the inspector identified a number programmatic oversights. In response to the inspector's findings, the licensee committed to the following corrective actions:

- To provide records objectively confirming that the OSRC had adequately discharge its assigned responsibilities, SO123-G-1 will be revised to require meeting minutes to be prepared in a format which uses Technical Specification responsibilities as topical headings.

- Requirements will be provided in SO123-G-1 to specify a time by which required OSRC reviews of events will be completed.

  This will assure timely accomplishment of required OSRC reviews.

- Requirements will be provided in SO123-G-1 to establish a preplanned agenda for OSRC meetings addressing topics to be considered at each meeting.

- Requirements will be provided in SO123-G-1 to assure timely issuance of OSRC meeting minutes.

- SO123-G-1, paragraph III.C.6, will be revised to reflect the requirements and approvals specified in Technical Specification Paragraph 6.5.1.6.f.

- E&C 40-9-21 will be revised to assure record distributions required by Technical Specification Paragraph 6.5.3.7.

- E&C 40-9-22 will be revised to implement the Independent Safety Engineering Group functions specified by Technical Specification Paragraph 6.2.3.1.

- E&C 40-9-22 will be revised to implement the membership composition and qualification requirements of Technical Specification Paragraph 6.2.3.2.

- E&C 40-9-22 will be revised to include reference to Procedure E&C 40-9-19.

The implementation of the above items will be examined during a future inspection. (50-361/82-12-03)

b. Program Implementation

The inspector examined the records of all Nuclear Safety Group activities and the minutes of Onsite Review Committee meetings held since issuance of the facility operating license and concluded the activities had been carried out in accordance with established written programs and as required by the Technical Specifications.

The inspector also discussed the activities of the Independent Safety Engineering Group (ISEG) with the STA Supervisor and reviewed documentation of ISEG activities. It appeared that the ISEG activities conformed to the functions and responsibilities defined in the Technical Specifications.

c. Management Actions to Identify and Resolve Problem Areas

The licensee's management identified to the inspector areas which were under evaluation to establish appropriate corrective actions. These areas were identified by the licensee during the conduct of management inquiries. The areas were: (1) timeliness of Corrective Action Request (CAR) resolution and tracking system function, (2) consistency of reporting of surveillance data between organizational entities, (3) operability of fire seals, (4) expiration of containment polar crane certification period, and (5) failure to consistently perform operability retesting on returning to service equipment which had been under maintenance.

The licensee has subsequently identified, and reported to the NRC, inoperable fire rated seals and assemblies.

8. Overall Startup Test Program

During the startup test program the licensee's startup organization will be essentially the same as used during the pre-operational phase. However, startup procedures and test results will now be reviewed and approved by the station management in accordance with Technical Specification requirements.

Based on a review of startup procedures and discussions with licensee personnel, the inspector verified that the licensee's startup test program includes requirements for testing consistent with Final Safety Analysis Report (FSAR) and Regulatory Guide 1.68 commitments. Test Instructions TI-2 and TI-8 provide instructions as to the format and content of startup test procedures, including objectives, summary of the test, necessary prerequisites, and acceptance criteria.

The inspector verified that the licensee has established administrative measures to govern the conduct of testing. The measures include a method for assuring the use of current test procedures by controlling the master copy. Test Instruction TI-8 requires a pretest briefing of personnel involved in the test. Test Instruction TI-2 describes the process for initiating a Test Change Notice (TCN) to make changes to a working test procedure. The TCN process provides a methodology for evaluating the scope and impact of the change on the test procedure. TI-8 provides the criteria for the interruption of a test and the continuation of a test following interruption. The coordination of testing, to assure that a test can be conducted with no impact on other tests or in conflict with other tests, is also controlled by TI-8.

The documentation of significant events, unusual conditions, or interruptions to testing is provided by the use of Test Exception Reports (TERs) as specified in TI-4. TERs can also generate Non-Conformance Reports to identify deficiencies and document resolution. The TER also provides for retesting and documentation thereof.

Test results are evaluated by the Test Working Group (TWG) which includes a representative from station engineering. Procedure TI-7 (Test Working Group) describes the duties and responsibilities of the members, in evaluating test results. The test packages reviewed by TWG include all test data, TERs, and TCNs in order to provide information in a meaningful form for review. The packages also include NCRs and any changes made to the test resulting from changes to the system. All test results are approved by the Startup Manager, the Station Manager, and the Test Working Group.

The inspector examined the following procedures in the course of the inspection of the overall Startup Test Program.

- San Onofre Units 1, 2 and 3 Quality Assurance Program Section 6-D: Prerequisite, Preoperational, and Startup Testing
- TI-2: Preoperational and Initial Startup Phases Test Procedure Preparation, Review and Approval
- TI-4: Review, Evaluation, and Approval of Test Results
- TI-7: Test Working Group
- TI-8: Conduct of Testing
- TI-11: Test Schedules
- TI-28: Startup Nonconformance Reports

No items of noncompliance or deviations were identified.

9. Non-Routine Event Review

Through discussions with licensee personnel and examination of Procedure S023-0-22.0 (Station Incident Reports), the inspector determined that responsibilities have been assigned for the prompt review and evaluation of off-normal operating events. The Station Incident Report is the primary document generated for the evaluation of all potentially reportable events. This includes the evaluation of activities such as planned and unplanned testing and maintenance when those activities could cause a potential violation of limiting conditions for operation. The Station Incident Report also provides a process for internal notification, evaluation and generation of a report to the NRC. The report will also be sent to Quality Assurance for followup and tracking of corrective action to assure the completion of those actions.

No items of noncompliance or deviations were identified.

10. Tests and Experiments

The licensee's Procedure S0123-VI-1.0 (Station Documents, Preparation Revision and Review) controls the process of preparing a test procedure. The proposed test procedure (for tests or experiments not described in the FSAR) is routed with a form referenced in the procedure that includes a determination that the procedure does not involve an unreviewed safety question, or require a chnage in the Technical Specifications. The Nuclear Safety Group examines those areas that do represent unreviewed safety questions in accordance with Procedure E&C 40-9-21 (Nuclear Safety Group Review and Audit Responsibility for SONGS 2 and 3). The inspector

examined the only two tests conducted thus far and determined that both had been reviewed for 10 CFR 50.59 considerations and conformed to the process described in SO123-V1-1.0. During the exit meeting of April 2, 1982, the inspector emphasized the importance of the determination of 10 CFR 50.59 considerations and reportability.

No items of noncompliance or deviation were identified.

11. Licensee Event Reports (LER)

LER 82-01

The licensee had reported that malfunctioning automatic fire water system deluge valves caused an inadvertent spraying of water onto the control room ventilation charcoal filters, resulting in the destruction of the charcoal beds.

The inspector examined the licensee's corrective actions. The actions appeared adequate, appropriate to the cause, and complete. The events did not appear to involve an unreviewed safety question and did not involve continued operation in violation of Technical Specifications. The licensee's report accurately described the event, the cause and satisfied the Technical Specification reporting requirement.

12. Independent Inspection Activities

a. Housekeeping

The inspector observed several areas where cleanliness had deteriorated to marginal levels. These areas were in the Control Room Charcoal Filter Rooms and the Diesel Generator Rooms. Deficiencies included: (1) bolts and fasteners lying on equipment and floors, (2) rags piled on a concrete pedestal, (3) two open one-gallon cans (one containing fuel and water) in the vicinity of the diesel G-002 fuel oil day tanks, (4) several pages of a surveillance procedure on the floor in each diesel generator room, and (5) oil puddles on floor caused by leaking unions at the discharge of the diesel lube oil circulating pumps. The licensee initiated action to correct these conditions.

The licensee observed that the station order addressing housekeeping was in the final stages of review and approval and that conditions were expected to improve following issuance of this procedure. The inspector stated that additional emphasis on housekeeping appeared warranted and that the housekeeping conditions would be examined periodically in the conduct of the routine NRC inspection program.

b. Operability Testing of Equipment Returned to Service

The licensee reported to the inspector that there were indications that equipment operability tests were not being consistently required or performed following maintenance, repair or replacement as required by procedures. Subsequent inspections in the area of temporary modification control confirmed the licensee's assessment.

The inspector examined the licensee's procedural controls effecting operability/functional testing following maintenance, repair or replacement. Procedure S023-0-23 (Equipment Status Control) requires the Equipment Control and Surveillance Coordinator to evaluate each work request, prepare the requisite Equipment Control/Temporary Modification documentation and determine operability testing requirements to be accomplished prior to declaring the equipment operable. Procedure S023-0-24 (Redundant and Operability Testing Requirements) provides that all equipment shall be tested for operability when returned to service after maintenance.

Based upon these examinations, the licensee's program for operability testing of systems following maintenance, repair or replacement appeared deficient in that:

(1) While S023-0-23 requires assignment of operability tests, there is no adequate technical guidance provided as to what tests are necessary to verify operability of systems or components which are not addressed by Technical Specification surveillance requirements.

(2) The licensee's system does not provide adequate technical guidance to assure compliance with the ASME B&PV Code, Section XI, regarding functional testing of components and systems following maintenance, repair or replacement. For example, while the licensee's system for testing of pumps and valves appears adequate to assure operability testing following maintenance, repair or replacement, there did not appear to be a means specified to assure compliance with paragraph IWV-3200 following disassembly of mechanical joints. This observation was highlighted by the fact that the ASME B&PV Code was not referenced by S023-0-13 (Work Authorization), S023-0-23 (Equipment Status Control), or S023-0-24 (Redundant and Operability Testing Requirements).

(3) As a consequence of these program inadequacies, the inspector observed that several equipment control forms, effecting maintenance activities on code and non-code items, failed to specify requirements for operability and functional retesting following maintenance or repair. Non-code items are here meant to include those various electrical, instrumentation and process control loops which may not be addressed by the Code or Technical Specifications.

The licensee agreed to evaluate the program, and resolve deficiencies, to assure compliance with the ASME B&PV Code, and Procedure SO23-0-24, which requires that all equipment shall be tested for operability following maintenance, repair or replacement. In addition, the licensee agreed to establish a system to log and track to completion any functional/operability test which could not be performed prior to clearance/completion of the maintenance work order and equipment control forms.

This activity will be examined further during a future inspection. (50-361/82-12-04)

13. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspections on April 2 and 16, 1982, and discussed the inspection scope and findings.

The licensee acknowledged and apparent violation of controls over temporary modifications (see Paragraph 5.b.2).