

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

REGION V

Report No. 50-206/80-11

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

Licensee: Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, California 91770

Facility Name: San Onofre Unit 1

Inspection at: Camp Pendleton, California

Inspection conducted: April 21-25, 1980

Inspectors: *D. P. Haist* 5/22/80
D. P. Haist, Reactor Inspector Date Signed
P. P. Narbut 5/22/80
P. P. Narbut, Reactor Inspector Date Signed

Approved by: *R. T. Dodds* 5/23/80
R. T. Dodds, Chief, Engineering Support Section Date Signed

Date Signed

Summary:

Inspection on April 21-25, 1980 (Report No. 50-206/80-11)

Areas Inspected: Routine, announced inspection of inservice inspection activities, maintenance and repair activities on pressurizer code safety values, and licensee activities in response to IE Bulletin No. 79-02, "Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts". The inspection included selective examinations of procedures and representative records, interviews with personnel, observation of work activities, and a review of licensee action on previous items of noncompliance. The inspection involved 64 inspector-hours onsite by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

a. Southern California Edison Company (SCE)

J. M. Curran, Plant Manager
*R. R. Brunet, Superintendent
*D. E. Nunn, Manager, Quality Assurance
*J. D. Dunn, Project Quality Assurance Supervisor
*G. W. McDonald, Quality Assurance/Quality Control Supervisor
*B. L. Curtis, Engineering Supervisor
*M. A. Wharton, Supervising Engineer
*T. Lee, Quality Assurance Engineer
*J. T. Reilly, Nuclear Engineer
*G. Beetz, Maintenance Supervisor
M. P. Short, Nuclear Engineer
M. West, Quality Control Inspector
P. Watson, Station Engineer

b. Westinghouse Electric Company

J. Vano - Inservice Inspection Coordinator
E. Conrad - Inservice Inspection Coordinator - Balance of Plant

In addition, one Level I and four Level II nondestructive examination personnel were interviewed.

*Denotes attendance at exit interview on April 25, 1980.

2. Licensee Action on Previous Inspection Findings

a. (Closed) Noncompliance (50-206/78-14/01)-RPV Closure Stud Examination Calibration Technique.

Straight beam, axial scan ultrasonic examination of reactor vessel closure studs 1-14 utilized a back reflection technique for calibration rather than a calibration block equipped with reflectors as required by paragraph T-525.2 of Article 5 of the ASME Code Section V.

The inspector verified that the licensee has procured the requisite calibration standards. The inspector noted that the calibration holes had not been plugged as required by the ASME code to prevent deterioration of the calibration surface. The licensee committed to correct this situation immediately. The licensee engaged a new inservice inspection contractor following the 1978 refueling outage. The RPV closure stud examination procedure used by this contractor differs from that used by the previous contractor and is discussed in paragraph 3b.

- b. (Closed) Noncompliance (50-206/78-14/03) - Failure to perform surface examinations of RPV closure nuts.

Surface examination of the reactor vessel closure nuts 1-14, Class 1 components, did not include examination of threads in the base material as required by IWB-2500 and IWB-2600 of ASME Section XI.

The inspector verified that the licensee's examination program plan for this outage includes surface examination of the threaded area of reactor vessel closure nuts 1-14. This item is considered closed.

- c. (Closed) Unresolved Item (50-206/78-14/04) Ultrasonic Examination of RPV Closure Nuts

Licensee procedures and calibration blocks were prepared based upon the use of side drilled holes as calibration reflectors. ASME Code Section V, Recommended Practice SA-388 recommends using rectangular or 60-degree V-notches on the inside diameter of the calibration block.

The ASME Code Section V provides no direct guidance for ultrasonic examination of nuts. Also the ASME Code Section XI, 1977 edition, has deleted the requirement for volumetric examination of the closure nuts and now requires a surface examination which may be deferred to the end of the inspection interval. Based upon the future code requirements and the conservative response of side drilled holes verses surface notches, this item is considered closed.

3. IE Bulletin 79-02

- a. Review of Procedures

The inspector examined Special Engineering Procedure SPE-178 Revision 5 dated April 14, 1980 "Testing of Concrete Expansion Bolts - per IE Bulletin 79-02". The inspector observed that the procedure does not provide for verification that full expansion of the anchor has been achieved as required by the bulletin. At the exit interview licensee management committed to implement the bulletin requirement to verify full anchor expansion. This item will be examined further on a future inspection (Item 50-206/80-11/01)

- b. Observation of Work and Work Activities

The inspector examined the testing of supports 1 SC-152-6 and S-1501-W-21 for conformance to the requirements of procedure SPE-178. No items of noncompliance or deviations were observed.

c. Review of Quality Records

The testing of anchor bolts in the containment had not progressed very far. Of 67 supports in the containment requiring testing 11 had been tested at the time of inspection and six nonconformance reports had been generated.

The inspector examined the data for the six supports which had NCR's written against them. The supports were:

1 SS 1501 R-5,
1 SS 1501 R-7,
1 S 1501 W-22,
1 S 1501 W-6,
1 S 1501-W-16,
and 1 SC 2501 R-6.

No items of noncompliance or deviations were identified. At the exit interview the inspector discussed the bulletin requirement to increase the testing sample if the bulletin-required maximum anchor deficiency rate is exceeded.

d. Other Items

The licensee is not inspecting those supports which were modified in or about 1977 since those supports were installed using Hilti Kwik Bolts and according to the licensee had sufficient Quality Control documentation to meet the bulletin requirements. At the exit interview licensee management committed to forward the procedures used to control installation of these supports and some sample data sheets. The licensee management further committed to provide a list or otherwise scope these supports. The item will be inspected further upon receipt of the information. (Item 50-206/80-11/02)

4. Pressurizer Code Safety Valves

a. Review of Procedures

The inspector examined the following procedures to determine if items critical to quality were required to be inspected and documented:

- (1) Maintenance Procedure S-I-1.4 Revision 4 - April 14, 1980
Inspection, Repair and Testing of Pressurizer Relief Valves 532 and 533.
- (2) QC Inspection Procedure S01-X11-1.3 Revision 3 April 14, 1980,
"Quality Control Inspection of Repair and Testing of Pressurizer Relief Valves 532 and 533.
- (3) Instruction Manual, Crosby Valve and Gage Company "Safety Valves with Balancing Bellows Style HB". (C770909S-05)

No items of noncompliance or deviations were observed.

The inspector observed that the code safety valves are set in a bench test in a cold condition. Station engineering was unable to provide any correlation data between hot lift and cold lift set points. At the exit interview licensee management committed to technically resolve this item. Item 50-206/80-11/03.

b. Observation of Work and Work Activities.

The inspector examined the valve disk and seat lapping of code safety valve 533.

No items of noncompliance or deviations were observed.

The inspector examined valve 532 partially reinstalled on top of the pressurizer. The inspector noted the valve bonnet was properly vented.

The inspector observed that a blank flange had been installed on the pressurizer flange for valve 533. The flange had been installed loosely with one bolt; had apparently been bumped and was not completely covering the entrance to the pressurizer. The inspector closed the opening to the pressurizer due to the possibility of airborne contamination and notified the maintenance supervisor who subsequently had two bolts installed to prevent recurrence.

At the exit interview the inspector expressed concern regarding possibility of entry of foreign material in the pressurizer. Licensee management committed to investigate and take action as appropriate.

This item is considered unresolved. (Item 50-206/80-11/04)

c. Review of Records

The inspector reviewed pressurizer safety valve maintenance data as recorded in Procedure S01-XII-1.3 for valve 532 for 1980, and for value 532 and 533 for 1978. The records for 1977 could not be retrieved. At the exit interview licensee management committed to investigate and resolve this item. This item is considered unresolved. (Item 50-206/80-11/05)

5. Inservice Inspection

a. Review of Program

The inspector reviewed the following documents which comprise the licensee's inservice inspection program for the first 40-month period of the second ten-year interval. These documents were selectively reviewed for conformance to licensee commitments, and the ASME Code Section XI, 1974 through Summer 1975 addenda.

Engineering Procedure S-V-2.10, Rev. A - Inservice Inspection
General Requirements

Engineering Procedure S-V-2.11, Rev. A - Inservice Inspection
Class 1 Components

Engineering Procedure S-V-2.12, Rev. A - Inservice Inspection
Class 2 Components

Engineering Procedure S-V-2.13, Rev. A - Inservice Inspection
Class 3 Components

Station Order S-E-122, Rev. 3 -
Administrative Control of Inservice Inspection

Examination Program Plan for San Onofre Unit 1
Interval 2, Period 1, Outage 2

Westinghouse Procedure No. OPS-NSD-101, Rev. 5 -
Preservice and Inservice Inspection Documentation

Westinghouse Procedure No. ISI-QP-6.3, Rev. 0 -
Control of Onsite Inspection Activation for Balance of Plant
ISI Examinations

Controls on the performance and documentation of inservice examination appear to be in conformance with 10 CFR 50 Appendix B. The inspector identified a discrepancy between the inservice inspection program commitment for reactor coolant pump bolting and the examinations scheduled for this outage. Engineering Procedure S-V-2.11, Revision A, Table B-5.2 specifies volumetric and surface examination of 24 - "A" reactor coolant pump bolts when removed and volumetric examination only, when not removed. The examination plan for this outage specified only a visual examination of these bolts. The licensee corrected the program to include the required volumetric examinations and informed the inservice inspection contractor.

No items of noncompliance or deviations were identified.

b. Review of Quality Assurance Implementing Procedures

The inspector reviewed the following examination procedures for conformance to the ASME Code Section XI, 1974 through Summer 1975, ASME Code Section V, and licensee commitments:

ISI-8, Rev. 7 - Visual Examination Procedure

ISI-11, Rev. 9 - Liquid Penetrant Examination Procedure

ISI-47, Rev. 2 - Manual Ultrasonic Examination of Circumferential and Longitudinal Butt Welds in Ferritic vessels of 2 1/2" Thick and Greater.

ISI-70, Rev. 0 - Magnetic Particle Examinations

- ISI-41, Rev. 4 - Manual Ultrasonic Testing of Reactor Coolant Pump Flywheels.
- ISI-205, Rev. 2 - Manual Ultrasonic Examination of Full Penetration Circumferential and Longitudinal Butt Welds.
- ISI-15, Rev. 6 - Ultrasonic Examination of Studs, Bolts, and Nuts.
- ISI-152, Rev. 6 - Operation procedure for the Inservice Inspection of Reactor Vessels Using the Westinghouse Remote Inspection Tool.
- RV-ISI-01, Rev. 1- Reactor Vessel Inspector Program Preparation and Documentation.
- WMF-95044-P-001, Rev. 0 - Preparation and Operation of the Inservice Inspection Tool Number 2.
- WMF-95044-P-001-E1, Rev. 0 - Reactor Vessel Remotely Operated Inspection Tool In-house Calibration.
- WMF-95044-P-001-E2, Rev. 0 - Westinghouse Electronic Block Simulator (EBS) MKI Operating Procedure.

The inspector noted that procedure ISI-15, Ultrasonic Examination of studs, bolts, and nuts allows use of a calibration block less than 1/2 the length of the stud to be examined which is contrary to the requirements of the ASME Code Section V Article 5, Paragraph 7-525.2(b). The ISI contractor supplied a report of research performed to establish the proper frequency for use in inspection of studs and to provide a predetermined reference curve that is directly related to a short length calibration standard. The inspector had no further questions after reviewing the results of this research.

The inspector verified that the operating procedures for the remote mechanized reactor vessel examinations ensure the required examination coverage, and that calibration had been specified in accordance with code requirements.

No items of noncompliance or deviations were identified.

c. Observation of Work and Work Activities

The inspector observed the following examinations:

<u>Component</u>	<u>Examination</u>
8" Main Stem Butt Weld No. 15-6	Magnetic particle examination after surface preparation
16" Feedwater Pump G-3B Suction Line Butt Weld No. 317-1	Magnetic particle examination after surface preparation

<u>Component</u>	<u>Examination</u>
16" Feedwater Pump G-3 R discharge Line Butt Weld No. 319-1	Magnetic particle examination after surface preparation
Reactor Coolant Pump "C" Motor Flywheel	Ultrasonic

Examinations were performed in accordance with the governing procedures by certified examiners. No items of noncompliance or deviations were identified.

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph (4)(c).

7. Exit Interview

The inspectors met with the licensee representatives denoted in paragraph 1 at the conclusion of the inspection on April 25, 1980. This was a joint interview conducted with the NRC Resident Reactor Inspector. The inspectors summarized the purpose and the scope of the inspection and the findings.