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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V  
SUITE 202, WALNUT CREEK PLAZA  
1990 N. CALIFORNIA BOULEVARD  
WALNUT CREEK, CALIFORNIA 94596

SEP 8 1978

Docket Nos. 50-361  
50-362

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

Attention: Mr. J. B. Moore  
Vice President

Gentlemen:

Subject: NRC Inspection -San Onofre Units 2 and 3

This refers to the inspection conducted by Messrs. R. J. Pate and J. H. Eckhardt of this office on July 17-20, and August 14-18, 1978 of activities authorized by NRC Construction Permit No. CPPR 97 and 98, and to the discussion of our findings held by Mr. Pate with Mr. H. B. Ray and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

No items of noncompliance with NRC requirements were identified within the scope of this inspection.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you believe to be proprietary, it is necessary that you submit a written application to this office, within 20 days of the date of this letter, requesting that such information be withheld from public disclosure. The application must include a full statement of the reasons why it is claimed that the information is proprietary. The application should be prepared so that any proprietary information identified is contained in an enclosure.

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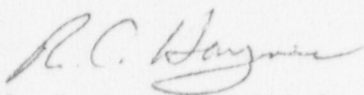
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Southern California Edison Company -2-

to the application, since the application without the enclosure will also be placed in the Public Document Room. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely,

  
for G. S. Spencer, Chief  
Reactor Construction and  
Engineering Support Branch

Enclosure:  
IE Inspection Report  
Nos. 50-361/78-12  
50-362/78-09

cc w/o enclosure:  
J. H. Drake, Vice President  
Engineering & Construction, SCE

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

REGION V

Report No. 50-361/78-12  
50-362/78-09

Docket No. 50-361, 50-362 License No. CPPR-97, CPPR-98 Safeguards Group \_\_\_\_\_

Licensee: Southern California Edison Company

P. O. Box 800, 2244 Walnut Grove Avenue

Rosemead, California 91770

Facility Name: San Onofre Units 2 and 3

Inspection at: Construction Site, San Diego County, California

Inspection conducted: July 17-20, and August 14-18, 1978

Inspectors: *[Signature]* 9/8/78  
for R. J. Pate, Reactor Inspector Date Signed

*[Signature]* 9/8/78  
for J. H. Eckhardt, Reactor Inspector Date Signed

\_\_\_\_\_  
Date Signed

Approved By: *[Signature]* 9/8/78  
R. C. Hayes, Chief, Projects Section, Reactor Date Signed  
Construction and Engineering Support Branch

Summary:

Inspection on July 17-20, and August 14-18, 1978 (Report Nos. 50-361/78-12 and 50-362/78-09)  
Areas Inspected: Routine unannounced inspection of construction activities including: piping installation, piping welding, containment prestressing, surveillance report review, field procurement, licensee corrective actions taken on previous inspection findings, and plant tour. The inspection involved 72 inspector-hours onsite by two NRC inspectors.  
Results: Of the seven areas inspected, no items of noncompliance or deviations were identified.

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## DETAILS

### 1. Individuals Contacted

#### a. Southern California Edison Company (SCE)

- \*H. B. Ray, Manager, Quality Assurance
- \*R. R. Hart, Construction Superintendent
- \*D. B. Schone, Lead Engineering Site Representative
- \*L. L. Saylor, Project QA Supervisor
- \*P. A. Croy, Site QA/QC Supervisor
- \*\*H. S. Leasure, Chief, Contract Construction Management
- \*\*R. G. Stripe, Engineer
  - J. J. Pantaleo, QA Engineer
  - W. F. Rossfeld, QA Engineer
  - M. Rodin, QA Engineer
  - R. Frick, QA Engineer

#### b. Bechtel Power Corporation (Bechtel)

- \*R. H. Cutler, Project Field Engineer
- \*J. E. Geiger, Project Field QA Supervisor
- \*B. R. McCullough, Field Construction Manager
  - W. T. Clements, Lead Civil Field Engineer
  - A. W. Howard, QC Engineer
  - L. G. Hersh, Assistant Project Engineer
  - J. Hosmer, Assistant Project Engineer
  - J. Haley, Piping Engineering Group Leader
  - L. Moon, Assistant Project Engineer
  - J. Mattimoe, Lead QC Engineer - Receiving Inspection
  - W. F. Holub, Project Field QA Engineer
  - W. Lemley, QA Engineer

#### c. VSL Corporation

- R. P. McCrossen, Field Inspector

\*Denotes attendees at exit interview 7/20/78 and 8/18/78.

\*\*Denotes attendees at exit interview 8/18/78.

### 2. Licensee Action on Previous Inspection Findings

The inspector examined those corrective actions taken by the licensee on the following previously noted enforcement, unresolved or open items.

- a. (Open) Noncompliance (50-361/78-06): Out-of-date drawings had not been discarded as required by Bechtel Procedure No. WPP/QCI-019, Revision 10.

A sample of 38 drawings from five work stations were selected to determine the effectiveness of the corrective action taken by the licensee. Out-of-date drawings were found at three of the work stations. A total of eight out-of-date drawings were identified. These results indicate the corrective action taken by SCE has not been fully effective. SCE management personnel indicated that additional corrective actions were planned. This matter is considered to be a continuing item of noncompliance and will be examined during a subsequent inspection.

- b. (Open) Noncompliance (50-362/78-05): An eight-inch check valve installed in a vertical line in the Safety Injection System was found to be improperly designed in that the valve could not perform its required function when installed in the vertical position.

The licensee has taken corrective action to modify the affected valve to perform the required function. Four other similar valves were also found to have been installed in the vertical position. All other valves of a similar design (approximately 60) were reviewed and were found to be installed in the horizontal position. This item will remain open until the modifications to the aforementioned four valves are complete.

- c. (Open) Unresolved item (50-361/78-08): Dye penetrant developer remaining on weld.

The licensee determined that the developer was purposely left on the weld as an aid in preparing the weld surface for final dye penetrant examination. The site practice is for a dye penetrant examination to be performed by the pipefitters prior to and during grinding of the weld surface.

The use of consumables (PT dye, etc.) by other than QA/QC personnel raised a question on the control of these items by all the site contractors. The licensee initiated an investigation in this area. The licensee's QA program requires resolution of any findings from this investigation. Results of the investigation and resolution of any adverse findings will be examined during a subsequent inspection.

- d. (Open) Open item (50-361/78-08): Tendon filler material (grease) was leaking from tendon ducts that had not been filled with grease and from the containment exterior wall.

The licensee's investigation has found that the grease used had a tendency to stratify, although it met all the requirements of the purchase specification. A different material was used to fill 22 ducts and no leaks resulted. SCE is in the progress of evaluating the products of two vendors to determine the best filler material to use. The results of this evaluation will be examined during a subsequent inspection.

- e. (Open) Open item (50-361/78-08): Two arc strikes were noted on safety injection system piping. Nonconformance reports were initiated by site personnel.

The disposition of the nonconformance reports for the previously identified arc strikes were reviewed and found satisfactory. Additional arc strikes were observed during this inspection. (Paragraph 4.)

Procedure WPP/QCI 202, Welding Control for AWS Welding, was being revised to provide instructions to welders working near safety-related pipe. The arc strikes appeared to be due to work near the safety-related pipe, but not by the workmen that had installed the pipe. WPP/QCI 202 will provide additional instructions to those workers working on nonsafety-related systems to provide protection for nearby safety-related systems. These corrective actions and their effectiveness will be examined during a subsequent inspection.

- f. (Closed) Open item (50-361/78-08): Securing large bundles of cable on the floor of control cabinets.

Procedure CS-E03 was revised by Specification Change Notice (SCN) CS-65 to provide criteria for securing horizontal wire runs on the floor of control cabinets.

- g. (Closed) Open item (50-361/78-08): The analytical justification concerning the acceptability of three repair areas using the grind-and-blend technique on Unit 2 steam generators No. 1 and 2 (two in S/G No. 1 and one in S/G No. 2) were not available with the records package at the site.

The licensee provided a copy of the referenced analytical reports for the inspector's review. The CE Analytical Report, dated September 1976, Pages D-39, D-40 and D-72 showed the remaining wall thickness to be adequate in all three cases and the repairs to be acceptable.

- h. (Closed) Open item (50-361/78-08, 50-362/78-06): SCE had not completed a followup audit of an adverse audit finding of the Field Procurement organization.

SCE followup audit BPCS-21-78 of Field Procurement was reviewed. There were no major concerns expressed in the audit report. An independent review of the Field Procurement organization was conducted by the inspector. (See Paragraph 7.)

3. Construction Status

The licensee reported that site construction work is 57% complete as of August 18, 1978. The licensee's project management personnel estimate the construction effort to be split 60%/40% between Units 2 and 3.

4. Piping Installation

The HRC inspector examined the installation of ten pipe spools in the Unit 2 and Unit 3 containments (six spools in the safety injection system, two spools in the containment spray system, and two spools in the volume control system). Also, numerous pipe spools in temporary storage at the Unit 3 penetration area were examined.

Three arc strikes in the piping (on Spools 3-SI-046-002, 3-SI-046-003, and 2-SI-045-001) were observed. It appeared that the arc strikes did not occur during the pipe installation and welding, but during hanger installation for nonsafety-related piping in the near vicinity of the subject spools. This item was discussed with the licensee who indicated that additional instruction would be given to pipe hanger welders in an attempt to minimize the arc strike problem. NCR's were also generated concerning the arc strikes. This item is considered open.

Piping Welding

Four pipe welds were visually examined: Welds A and B (Spool 3-SI-044-007), Weld A (Spool 2-VC-056-004), and Weld SDB (Spool 2-CS-047-001). Applicable quality records (welding checklist and filler metal withdrawal) associated with Weld A of Spool 2-VC-056-004 were reviewed. No items of noncompliance or deviations were identified.

5. Bechtel Surveillance Report Review

Eight selected Bechtel quality assurance surveillance reports were reviewed. QAF-934 indicated that several containment wall concrete placements (both Units 2 and 3) exceeded the maximum concrete placement temperature for placements which exceed six feet in thickness (buttresses). FCR-1099-C and the FSAR require that the concrete temperature for placements which exceed six feet in the least dimension shall be as close to 50° F as possible and not exceed 55° F. For several placements the concrete temperature exceeded 55° F and was as high as 68° F as documented in NCR-C-1642. The PSAR does not contain a commitment for the 55° F temperature limit.

The item was discussed with the licensee; the FSAR should be revised to reflect the actual construction conditions. This item is considered open.

6. Transition Welding

During the plant tour on July 17, 1978, the inspector noted three transition welds where carbon steel hangers were welded to stainless steel pipe. The three hangers noted were as follows: SA-LR-198-H-001, SA-LR-198-H-003, and S3-BM-031-H019.

The weld procedure (P8-P1-T-AG, Revision 3), hanger drawings, applicable specification (5023-409-14, Revision 0) and weld records were reviewed. The transition welds were completed in accordance with the Bechtel specification. Transition welds are allowed for systems that contain fluids at less than 300° F and less than 500 psig. The three lines noted were in the radwaste system with a maximum temperature of 150° F and maximum pressure of 150 psig. The inspector had no further questions.

7. Field Procurement

Procedure WPP/QCI 014, Revision 4 was reviewed. Three requisitions for field procured materials were reviewed and checked against the requirements in WPP/QCI 014. The requisitions reviewed were as follows:

<u>Requisition No.</u>	<u>Material</u>
FP-10123	Cement
FP-3079	Plate Steel
FP-2836	I Beam

The inspector reviewed the handling of the requisition by the Field Buyer, Field QC and Receiving Inspection. No items of noncompliance or deviations were identified.

8. Exit Interview

The inspectors met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on July 20 and August 18, 1978. The items outstanding were itemized. The licensee representatives stated that corrective action would be initiated on these findings.