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

	•	RE	GION V	
Report No.	50-361/80-19 _50-362/80-12	• •	•	
Docket No.	50-361/362	License No.	CPPR-97/98	Safeguards Group
Licensee:	Southern California Edison Company			
	2244 Walnut Grove A	venue		
	Rosemead, Californi	a 91770		(
Facility Na	ame: San Onofre Uni	t 2 and 3	······································	-
Inspection	at: Construction S	ite, San Diego	County, Califo	- rnia
Inspection	conducted: Novemb	er 4-7, 1980		
Inspectors	NOTE	THE		118181
	J.H. Eckhardt, Rea	ctor Inspector		Date Signed
	D. F. Kirsch, React	or Inspector		Date Signed
	G. Hernandez, React	or Inspector		Date Signed
Approved By	- Jat Sund	h		1/8/81
ter for	R. T. Dodds, Chief, Reactor Construction	Support Section and Engineer	on ing Support Bra	Date Signed
Summary:		3 7 1000 / 7		
Ins	spection on November	4-/, 1980 (Rep	ort No. 50-361/	80-19 and 50-362/80-12)
Are	as Inspected: Routi	ne, unannounce	d inspection by	regional based inspectors

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<u>Areas Inspected</u>: Routine, unannounced inspection by regional based inspectors of construction activities including: licensee action on previous inspection findings, electrical cables, electrical components, instrumentation components and systems, pipe welding, and tank welding. The inspection involved 72 onsite inspection hours by three NRC inspectors.

Results: Of the areas inspected, no items of noncompliance or deviations were identified.

RV Form 219 (2)

DETAILS

Individuals Contacted 1.

- Southern California Edison Company (SCE) a.
 - *D. E. Nunn, Manager, Quality Assurance
 - *H. B. Ray, Project Manager
 - *P. A. Croy, Project OA Supervisor
 - *J. J. Wambold, Construction Manager
 - *T. O. Gray, Construction Lead QA Engineer
 - V. A. Gow, QA Engineer
 - A. H. Chan, QA Engineer N. Ferris, QA Engineer

 - J. J. Fenelon, OA Engineer
 - D. C. Stonecipher, QA Engineer

Bechtel Power Corporation (Bechtel) b.

- *R. Patterson, Division OA Manager
- *J. E. Geiger, Project QA Manager
- *J. H. McCarty, Project QC Manager
- *W. D. Nichols, Project Field Engineer
- *L. W. Hurst, Project Field QA Supervisor
- S. Hayter, Lead Discipline Field Engineer, Electrical

*Denotes those attending exit interview.

Licensee Action on Previous Inspection Findings 2.

The inspector examined the action taken by the licensee on the following items.

(Closed) Deviation (50-361/80-06/01): Storage of high strength bolts. a.

Corrective action committed to in the licensee's response (May 28, 1980) to the Notice of Deviation was reviewed and verified by direct observation. A storage shed for bolts has been provided at the Jap Mesa storage area, and the bolting material is in this structure to eliminate exposure to weather. All corroded bolts were observed to be in a segregated area. This item is closed.

(Closed) Followup Item (50-361/80-06/04): Dissimilar metals on Ь. reactor coolant pump seal bleedoff flowmeter.

The design of the flange was reviewed by SCE and Combustion Engineering as documented in SCE NCR S023 F-26S (March 18, 1980) and CE letter S-CS-2546 (July 28, 1980). These documents conclude that the flange is conforming as designed and will perform its intended function. This item is closed.

c. (Closed) (361/80-15/01) Unresolved Item: Internal wiring of "third-of-a-kind" load transfer switch.

The discrepancy had been documented by Bechtel NCR (No. E-2143) and SCE NCR (No. F-292) and was determined to be applicable to Units 2 and 3 panels D004 and D005. It was further determined that the problem was unique to switchboards provided by one particular contractor for use in 4 kv applications, and, therefore, was not generic in nature.

The inspector examined the NCR's and the Field Change Notices specifying the resolution. Although the work specified by the FCN's was not completed, the resolution was placed into the licensee's system to assure work completion.

The inspector had no further questions.

d. (Closed)(362/79-07/02) Followup Item: Protective channels for housing instrument tubing lines in the event that minimum channel separation distance cannot be maintained.

The inspector examined drawing 56461-3 (Tubing Barrier) which specified the design of a protective channel to house instrument tubing in lieu of the required 18-inch separation distance. The design appeared sufficiently substantial to take the place of the 18-inch separation distance. The inspector had no further questions.

e. (Open) Deficiency (50-361/79-06/01): Control of pink drawings in the field:

Discussions with licensee personnel determined that licensee surveillances in three areas has detected a number of drawings in the field which do not reflect the latest change, revision and/or associated DCN's as listed in the weekly document log. Accordingly, the licensee issued Corrective Action Requests (CAR) addressing the findings in the area of distribution and control of design and field generated documents. The CAR's requested that Bechtel identify the cause of the problem and take corrective action to prevent recurrence. Additionally, the licensee has approved a Procedure Change Notice (PCN) No. 23 to WPP/QC1 No. 019 which provides for a monthly audit of all uncontrolled area stick files and document files and the establishment of a training program for the construction area clerks.

This item will remain open pending a future inspection to examine the Bechtel response to the CAR's, the programmatic changes to and implementation of WPP/QC1 No. 019.

3. Electrical (Cables and Terminations)

a. Observation of Work and Work Activities

The inspector examined the following Unit 3 activities for compliance with license procedures, PSAR commitments, Regulatory Guide 1.75 and IEEE-384:

- Termination activities in progress on two cables in the main control board being conducted by two craftsmen.
- (2) About 70 completed terminations in the main control board cabinets 3CR52 and 3CR58 and one 4 KV safety-related breaker cabinet 3D007.
- (3) Cable tie down criteria and activities on the floor of Unit 2 and 3 main control boards.

Bechtel personnel determined, in response to the inspector's questions on main control board cable bundle tie down criteria, that a Procedure Change Notice (PCN) was advisable to provide adequate reference to cable support procedures. This PCN was written and approved. Final tie down of cable bundles to the floor of the main control boards had not been completed and was planned for completion after all cable installations had been completed. The inspector had no further questions.

No items of noncompliance or deviations were identified.

b. Review of Quality Records

The following quality records were examined to verify compliance with licensee quality documentation requirements:

- Cable pull cards and termination cards for 3 power cables and 12 instrumentation/control cables.
- (2) About 20 electrical-related nonconformance reports generated by both the licensee and Bechtel.
- (3) Three licensee electrical-related audits.
- (4) Qualification documentation for two termination craftsmen.
- (5) Certification of calibration for two terminating tools.

Pursuant to examination of NCR's, particular emphasis was placed on assuring that nonconformances applicable to a particular unit had been appropriately evaluated for applicability to the other unit.

No items of noncompliance or deviations were identified.

4. Electrical (Components and Systems)

a. Observation of Work and Work Activities

The inspector examined the following Unit 3 work activities:

- The mounting and anchorage of two main control board panels (3CR52 and 3CR58) and two auxiliary relay cabinets (3L71 and 3L188) for compliance with installation drawings.
- (2) Four Limitorque motor-operated valves for compliance with preventive maintenance criteria (Valve Nos. HV-9202, 0337, 9339 and one valve with no identification markings).

Two valves (the unidentified one and HV-9202) were located on the floor of a Unit 3 containment level and observed to have unenergized motor heaters. The licensee took immediate action to establish heater power and to determine why the valve was unidentified. The documentation of preventive maintenance performance was examined for the three identified valves and appeared satisfactory. The licensee's system for valve preventive maintenance from receipt on-site to installation was examined and appeared satisfactory.

The licensee explained that valves HV9202 and the unidentified valve had been transferred to site from the storage warehouse shortly before the recent strike and that the valve identifier most probably was lost during the one-month laydown period in the containment. Since the safety significance of the deenergized heaters appears to be minimal (the motors are totally enclosed in closed housings and the containment area provides for moisture-free storage), no other instances of unenergized heaters or unidentified valves were observed and preventive maintenance records indicated that the heaters were energized and lubrications complete when placed on the containment floor, the inspector considers this an isolated occurrance.

No items of noncompliance or deviations were identified.

5. Instrumentation (Components and Systems)

a. Review of Quality Records

The licensee identified that at least one instance existed in Unit 2 where redundant channel pressurizer instrument lines had been observed to violate the separation criteria. This had been identified by SCE audit No. PBCS-35-80 and Corrective Action Request No. F-949 was issued to Bechtel requiring resolution. The licensee's representative pointed out that the problem had stemmed from the fact that the safety-related instrument lines had a "T" connection from which one instrument line went to a safety-related instrument and one line was routed to an instrument that was classified as non-safety related. The lack of separation was identified by the licensee to have occurred in the path of the instrument tubing routed to the non-safety related instrument.

Examination of the situation in the field and discussions with licensee personnel identified the following:

- All portions of the instrument line which was routed to the safety-related instrument appeared to be appropriately color coded and separated. The licensee noted that these portions of the lines and the instruments were subject to the quality assurance criteria of 10CFR50, Appendix B, and therefore, appropriately inspected and verified to conform to specified quality criteria.
- (2) Those portions of the instrument line routed from the "T", including the instrument, classified as non-safety related were not appropriately color coded or separated. The licensee representative noted that those portions of the instrument line, and instrument, which were classified as non-safety related were not subject to the quality assurance critiera of 10CFR50, Appendix B, and therefore not inspected and verified to conform to the same critiera as the safety-related portion.
- (3) A failure in the non-safety related tubing and instrument could possibly negate the safety-related performance of the safety-related instrument channels since the non-safety related portion did not appear to be isolable from the safety-related portion. Furthermore, it appeared that a single failure of either (1) certain non-safety related instrument lines or (2) non-safety related instruments could possibly negate the performance of two redundant safety-related instruments.

In view of the above findings, it was not clear how the installed condition of certain instruments and tubing conformed to Criterion 21 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10CFR50.

This item is unresolved and will be examined during a future inspection. (361/80-19/01)

6. Safety-Related Pipe Welding

Observations of Work and Work Activities

In process piping installation and welding activities were observed in Unit 3 and in the laydown area Fab Shop for compliance with licensee procedure, specifications and PSAR commitments. These observations included pipe storage, cleanliness, rigging, fit-up, tack welding and grinding. A total of 8 pipe welds were examined.

The pipe welds examined:

Unit No. 3 Containment

System

(1)	S3-1201-ML-660
(2)	S3-1203-ML-141
(3)	S3-1203-ML-074
(4)	S3-1203-ML-287

Fabrication Shop

System

Weld Number BB Z(R-1) MA(R-1) K

Weld Number

P(c) SP N B

(1)	S3-1212-ML-117
(2)	S3-1204-ML-001
(3)	S3-1204-ML-001
(4)	S3-1203-ML-076

All welding observed appeared to be conducted in accordance with the applicable procedures and the welders were observed using the specified filler metal and were qualified for the process and positions being employed.

No items of noncompliance or deviations were identified.

7. Tank Welding

Three tanks installed in Unit 3 were examined to ascertain compliance with ASME B&PV Code welding requirements. Both the tank and support welds for the purification ion exchanger and two boric acid makeup tanks were inspected. These tanks were manufactured by P. F. Avery Company and supplied by Combustion Engineering. No items of noncompliance or deviations were identified.

8. Unresolved Items

Unresolved items are matters about which more information is required to ascertain whether they are acceptable items, items of noncompliance or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 5.

9. Management Interview

The inspectors met with licensee representatives (denoted in paragraph 1) on November 7, 1980. The scope of the inspection and of the inspectors' findings as noted in this report were discussed.