

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

REGION V

Report No. 50-361/79-27
50-362/79-25

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

Investigation at: Construction, San Diego County, California

Investigation conducted: October 1-5, 1979

Inspectors: R. J. Dodds for 11/15/79
J. H. Eckhardt, Reactor Inspector Date Signed

R. J. Dodds for 11/15/79
J. O. Elin, Reactor Inspector Date Signed

R. J. Dodds for 11/15/79
R. J. Pate, Resident Inspector Date Signed

Approved By: R. T. Dodds 11/15/79
R. T. Dodds, Chief Date Signed
Reactor Engineering Support Section

Summary: Investigation on October 1-5, 1979 (Report Nos. 50-361/79-27 and 50-362/79-25)

Area Investigated: Unannounced investigation by regional based inspectors and resident inspector of allegation concerning splices of General Electric Class IE electrical cable. It was alleged that hundreds and hundreds of factory splices exist in General Electric cable installed at San Onofre, that the splices are well concealed, and that the problem will be buried in paperwork or a "deal" made with the NRC. The investigation involved 30 hours onsite by three NRC inspectors.

Results: The existence of the splices was substantiated, however, the Licensee was previously aware of the splices and was pursuing the problem. No items of noncompliance or deviations were identified.

RV Form 219 (2)

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DETAILS

1. Individuals Contacted

a. Southern California Edison (SCE)

- *H. B. Ray, Project Manager
- *D. E. Nunn, Manager, QA
- *P. A. Croy, Project QA Supervisor
- R. R. Hart, Construction Manager
- *W. L. Rossfeld, Construction Lead QA Engineer
- J. Huey, QA Engineer

b. Bechtel Power Corporation (Bechtel)

- *C. A. Blum, QA Manager
- *J. E. Geiger, Project QA Supervisor
- *R. H. Cutler, Project Field Engineer
- *L. W. Hurst, Project Field QA Supervisor

The inspectors also interviewed four Bechtel QC Engineers, a cable pulling Superintendent, and a cable pulling General Foreman.

*Denotes those attending exit interview.

2. Summary of Allegation

On September 25, 1979, the Region V Office received a typewritten letter postmarked Santa Ana, Ca., September 22, 1979, alleging that the General Electric cable installed in San Onofre has been spliced at the factory. The letter stated that "General Electric spliced this class cable and used a vulcanizing procedure that almost completely concealed the location of hundreds and hundreds of splices." The letter also states that Bechtel discovered this problem and "there is now an attempt to cover up this fact." The unsigned letter was from "A Concerned Quality Control Engineer, Bechtel Power Corporation."

3. Investigation and Findings

The resident inspector was contacted by the Region V office on September 25, 1979, and indicated that he was aware of a cable splice that was discovered by Bechtel on September 12, 1979. Bechtel and SCE met with a General Electric representative on September 18, 1979 to discuss this finding. The resident inspector was allowing SCE, Bechtel, and GE to resolve this matter since they had discovered it.

During a routine regional inspection on October 1-5, 1979, the allegation was investigated by the regional based inspectors and the resident inspector. The inspectors interviewed all four of the Bechtel QC Engineers

presently assigned to cable pulling. All of these QC Engineers were aware of the one splice found (in fact one of these Engineers discovered the splice), were aware of many "jacket patches" on GE cable, but each indicated that he was not the alleged. Also, the cable pulling Superintendent and a cable pulling General Foreman were interviewed. They also were aware of the one splice and other jacket patches but indicated they did not know who wrote the letter. All of the people interviewed indicated that GE cable had many "jacket patches" and that when a cable pull was in progress and a patch was found, the QC Engineer would make a decision to allow the pull to continue or reject the cable. This decision is based on the size, appearance, and/or condition of the patch. Nonconformance reports were generated for the cable that was rejected.

During the investigation, six examples of "jacket patches" (as indicated by slightly different color and surface texture) on GE cable on reels were found. The licensee had these sections cut from the reels and dissected. In five cases, the insulation under the jacket was slightly deformed or had thin spots, and in the sixth case the insulation was cut through in a "V" shape approximately 1/2 inch in size. This cut was not repaired. None of the cable was found to be spliced. It appears that GE has a vulcanizing process to repair the cable jacket or rejacket the cable in places where the insulation is damaged and uses this process extensively.

NRC Reg Guide 1.75 paragraph C.9 states that there should not be cable splices in raceways, and if there are splices in raceways this should be indicated in the Safety Analysis Report and the splice design given. SONGS is committed to RG 1.75 but does not indicate splices in the SAR. Also, the Purchase Order calls for "continuous" cable to be supplied. The licensee indicated the GE representative revealed that GE had "many" splices in their cable.

In summary, it appears that cable splicing of General Electric cable does exist based on the General Electric representative's statement to the licensee. To be acceptable, these splices must have appropriate design, qualification, testing and inspection. The licensee indicated that they are pursuing this matter with General Electric. The licensee also indicated they will modify the SAR based on the outcome of their investigation. Also, it does not appear that there was an attempt on the part of SCE or Bechtel to cover up the finding.

4. Exit Interview

At the conclusion of the investigation, a meeting was held with licensee and Bechtel representative (in conjunction with a routine inspection exit interview) denoted in Paragraph 1. The scope of the investigation and the observation and findings of the inspectors were discussed. The licensee indicated they would continue to pursue this matter with the cable supplier and keep the NRC advised of the results of their continuing investigations.