

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/87-31; 50-361/87-33; 50-362/87-33

Docket Nos. 50-206; 50-361; 50-362

License Nos. DPR-13; NPF-10 and NPF-15

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

Facility Name: San Onofre Nuclear Generating Station Units 1, 2 and 3

Inspection at: San Clemente, California

Inspection conducted: December 7, 1987 - December 11, 1987

Inspector:

Charles Ramsey
C. Ramsey, Reactor Inspector

1/25/88
Date Signed

Approved by:

S. Richards
S. Richards, Chief
Engineering Section

1/26/88
Date Signed

Summary:

Inspection During the Period December 7 - December 11, 1987 (Report Nos. 50-206/87-31; 50-361/87-33; 50-362/87-33)

Areas Inspected: An unannounced inspection of Units 1, 2 and 3 to close out previously identified open items and to evaluate the adequacy of the implementation of the routine fire protection program for Units 1, 2 and 3.

Results: In the areas inspected, no violations of NRC requirements were identified.

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DETAILS

1. Persons Contacted

Southern California Edison (SCE)

- *H. E. Morgan, Station Manager
- *R. W. Kreiger, Operations Manager
- *D. B. Schone, Quality Assurance Manager
- *N. R. Dickinson, Supervisor, Project Technical Services
- *J. P. Shipwash, Supervisor Station Compliance
- *M. P. Short, Manager, Nuclear Training
- *D. Cox, Supervisor, Nuclear Licensing
- *J. J. Wambold, Project Manager
- *M. O. Medford, Manager, Nuclear Licensing
- *D. H. Peacor, Manager, Emergency Preparedness
- *R. Baker, Project Engineer
- *J. McGraw, Licensing Engineering
- *D. Barreres, Emergency Preparedness
- *M. Zenker, Compliance Engineer
- *M. J. Johnson, Emergency Preparedness
- *S. Gainell, Operations Coordinator
- *M. A. Wharton, Assistant Technical Manager
- *B. Richter, Emergency Preparedness
- *H. Leake, Electrical Engineer
- *D. Evans, Nuclear Engineer
- *G. T. Gibson, Senior Compliance Engineer
- *N. Maringas, ISEG Engineer
- *T. Herring, Nuclear Engineer
- *D. A. Dack, Quality Assurance
- *R. Schpall, Fire Protection Engineer
- K. Simmons, Nuclear Training Department
- D. Irvine, Station Technical Services
- A. Sistos, Nuclear Engineering

Impell Corporation

- *J. Hall, Fire Protection Consultant
- *A. Thiel, Fire Protection Consultant

NRC

- *R. Huey, Senior Resident Inspector
- *H. Rood, Project Manager, San Onofre Units 2/3
- *D. Kubicki, NRR Technical Reviewer, San Onofre Units 2/3

2. Licensee Action on Previous Inspection Findings

- a. (Closed) LER No. 84-75, "Failure to Establish a Backup Fire Suppression Water Supply." (Units 2 and 3).

This item is closed based on the licensee's corrective action which included opening the Unit 1 check valve bypass and revision of the appropriate procedures to include instructions for using the Unit 1 fire pump as an alternate fire suppression water supply for Units 2 and 3.

- b. (Closed) LER No. 84-33, "Failure to Establish Backup Fire Suppression Water Supply Due to Fire Main Break" (Units 2 and 3).

This item is closed based on the licensee's corrective action which included immediate replacement of the broken fire main and restoring the fire suppression water supply system to an operable status.

- c. (Closed) LER No. 84-46, "Turbine Generator Fire" (Unit 2).

This item is closed based on the licensee's corrective action which included prompt extinguishment of the fire; repair and replacement of damaged components on the generator and, enhancement of the fire detection system for the generator.

- d. (Closed) LER No. 85-13, "Turbine Generator Hydrogen Seal Oil Fire" (Unit 3).

This item is closed based on the licensee's corrective action which included replacing or repairing damaged components to the generator. The automatic fire suppression system for the generator functioned properly and immediately extinguished the fire.

- e. (Closed) LER Nos. 85-01 and 85-11, "Units 2 and 3 Spray/Sprinkler and Hose Stations Inoperable Due to Personnel Error"

This item is closed based on the licensee's corrective actions which included implementation of more stringent administrative control over valve closures affecting the systems.

- f. The inspector reviewed licensee action on the following LER's regarding conditions that were reported by the licensee to be in apparent violation of the requirements of Appendix R to 10 CFR 50:

- (Open) LER No. 84-01, "Fire Protection Program Deficiencies in Violation of Condition No. 2.G of Facility Operating License Nos. NPF-10 and NPF-15" (Units 2 and 3).

On January 18, 1984, the licensee reported deficiencies in the licensee implementation of the fire protection program. These deficiencies involved: Fire protection spray/sprinkler and water supply systems; cable separation and fire wraps; fire barriers; and, fire smoke detectors and associated systems that are required by condition No. 2.G of Facility Operating License Nos. NPF-10 and NPF-15.

Region V follow-up on the licensee's corrective action for these conditions will be made during a subsequent Appendix R compliance inspection. This LER remains open pending further Region V review.

(Open) LER No. 84-015, "Fire Protection Program Discrepancies that Represent a Violation of Condition No. 2.G of Facility Operating License Nos. NPF-10 and NPF-15 Respectively" (Units 2 and 3).

On March 6, 1984 and June 1, 1984, the licensee reported that a licensee review of 49 NCR's identified conditions that were apparent violations of NRC fire protection requirements. The licensee submitted exemption requests for some of these conditions and implemented appropriate compensatory measures for the remaining conditions. The licensee took the position that no compensatory measures were necessary due to proposed exemption requests for the following conditions:

- . I&C cable analysis for "Hot Shutdown"
- . Associated circuit analysis for Appendix R
- . Appendix R separation criteria inside containment
- . Alternative shutdown capability without considering a concurrent loss of offsite power

The licensee stated in the LER that it was their belief that it was not the intent of license condition no. 2.G to report these deficiencies as a license violation because reports were already required by 10 CFR 50.36, 50.72 and 50.73. In addition, the licensee stated in a LER 84-15 transmittal letter dated April 5, 1984, that appropriate license condition amendment requests had been submitted to NRR.

During subsequent discussions and meetings with the NRC staff, the licensee established compensatory measures for all of the conditions discussed in the LER that were apparent violations of the facility operating license until final implementation of corrective action was completed on Unit 2. These measures will also remain in effect on Unit 3 until corrective plant modifications are complete. This is further discussed in paragraph 3.2 of the report. The licensee's final corrective action for all of the deficiencies will be verified by Region V during a subsequent Appendix R compliance inspection. This LER remains open pending further Region V review.

(Open) LER No. 84-24, "Fire Protection Program Discrepancies Involving Cable Separation and Fire Wraps (Units 2 and 3).

On April 24, 1984, the licensee reported additional examples of deficiencies similar to those documented in LER No. 84-15. The licensee's letter dated April 25, 1984, transmitting LER No. 84-24, indicated that corrective actions as described in

LER No. 84-15 were implemented. By letter dated May 7, 1984, the licensee clarified LER No. 84-24 by stating that a compensatory fire watch was established for the deficient condition involving redundant trains of systems required for safe shutdown until corrective actions have been implemented. The licensee's corrective actions will be verified during a subsequent Appendix R compliance inspection. This LER remains open pending further Region V review.

(Open) LER No. 84-30, "Fire Protection Program Discrepancies" (Units 2 and 3).

On May 25, 1984, the licensee reported 3 additional fire protection program deficiencies that were identified in licensee NCR's. The licensee stated in the LER that compensatory measures had been established for these conditions until final corrective action is complete. The licensee's corrective action will be verified by Region V during a subsequent Appendix R compliance inspection. This LER remains open pending further Region V review.

(Open) LER No. 84-34, "Missing Conduit Fire Wrapping for the Turbine Driven Auxiliary Feedwater Pump Power and Control Cables (Unit 3)

On August 27, 1984, the licensee reported this fire protection deficiency as an additional example of the licensee's failure to meet the technical requirement of Appendix R to 10 CFR 50. Pursuant to Technical Specification No. 3.7.9 action statement, an hourly fire watch patrol was established and will be maintained until final corrective action for the deficiency is implemented. The adequacy of the licensee's corrective action will be reviewed by Region V in a subsequent inspection for Appendix R compliance. This LER remains open pending further Region V review.

(Open) LER No. 84-41, Fire Protection Deficiencies Involving Cable Separation and Fire Wraps (Units 2 and 3)

On July 24, 1984, the licensee reported that two additional deficiencies had been identified as not meeting the technical requirements of Appendix R to 10 CFR 50. For these conditions, the licensee established fire watches in the affected areas. Region V will verify the adequacy of the licensee's corrective action for these additional conditions in a subsequent inspection for Appendix R compliance. This LER remains open pending further Region V review.

(Open) LER No.s 84-02, 84-34, 85-01, 85-12, 85-22, 85-30, 85-38, 86-31 and 87-09, "Failure to Adhere to Technical Specification Action Statement for Establishment of Compensatory Fire Watch Patrols" (Units 2 and 3).

The licensee reported examples of the licensee's failure to establish fire watch patrols for inoperable fire protection components pursuant to Technical Specifications in these LER's. The licensee's corrective action for these occurrences included disciplinary action, additional training and procedural changes. However, similar failures to establish fire watch patrols continue to occur. To enhance administrative control over the implementation of this Technical Specification action requirement, the licensee has developed and will implement a computerized "Fire Protection Information System (FPIS) that will provide scheduling, close out and on-line tracking of these actions. The licensee believes that this system will improve the communications and recordkeeping associated with these actions and provide assurance that future implementation errors will not occur. According to the licensee, this system will be in place by the end of March, 1988. These LER's remain open pending further Region V review.

- g. (Open) Open Item 361/87-08-01; 362/87-09-01, Items A through D "Inspector Observations of Deficient Conditions Associated with 10 CFR 50 Appendix R Compliance".

This item represents Region V's observation of examples of plant configurations that do not meet the technical requirements of Appendix R. Follow-up on these conditions will be made during a subsequent Appendix R compliance inspection. This item remains open pending further Region V review.

- h. (Open) Unresolved Item 361/86-34-03 "Fire Boundary Isolation"

This item remains open pending further NRC review. This is further discussed in paragraph 3.c(1) of this report.

3. Fire Protection Program Implementation

General Design Criterion (GDC) 3 of Appendix A to 10 CFR 50 requires that each nuclear power plant be provided with fire protection features of appropriate capacity and capability to minimize the adverse effects of fires on structures, systems and components important to safety. The NRC guidance on the implementation of GDC-3 of Appendix A to 10 CFR 50 is contained in Appendix A to NRC Branch Technical Position 9.5-1, NRC Generic Letter No. 86-10 and Appendix R to 10 CFR 50. A summary of the requirements applicable at San Onofre and a discussion of the observations made by the inspector is provided below.

a. Unit 1 Technical Specifications

Amendment No. 44 to Provisional Operating License No. DPR-13 requires that the licensee operate the facility in accordance with Technical Specifications and routine fire protection program elements described in the NRC's Fire Protection Safety Evaluation Report (SER) dated July 19, 1979. The facility was required to be in compliance with Appendix R to 10 CFR 50 and 10 CFR 50.48(c)(4) by April 30, 1986.

The NRC's Plant Systems Branch SER dated May 7, 1986, concludes that the licensee's 10 CFR 50 Appendix R safe shutdown capability is acceptable based on the staff's review. Because of modifications made to the facility by the licensee to satisfy the provisions of Appendix R, the licensee proposed fire protection technical specification amendments to the NRC by letters dated June 8, 1984; December 17, 1985; April 1, 1986; and May 19, 1986. Until the NRC staff review of the licensee's proposed technical specification amendments is complete, the licensee is operating the facility in accordance with the proposed fire protection technical specifications rather than the original NRC approved technical specifications. The inspector's review of Franklin Research Center's evaluation of the licensee's proposed fire protection technical Specifications disclosed that the proposed technical specification amendments appear significantly inconsistent with the Standard Technical Specifications for Westinghouse PWR's. The adequacy of the licensee's proposed technical specification amendments is currently under NRR review. This is considered an unresolved item (206/87-31-01) pending completion of NRR's review and Region V followup.

b. Implementation of Program Requirements at Unit 1

In addition to technical specifications requirements, the licensee is required to implement fire protection program requirements that satisfy the provisions of General Design Criteria 3 of Appendix A to 10 CFR 50 and Appendix R to 10 CFR 50, as described in the NRC's Safety Evaluation Reports dated July 19, 1979 and May 7, 1986, for Unit 1. The chronology of events leading to the NRC's conclusion in the SER that fire protection features provided for Unit 1 are in conformance with NRC guidelines and regulations is contained in Appendix A to the July 19, 1979 SER.

According to the licensee, other than the proposed technical specification changes that are currently under review by NRR, all aspects of the NRC approved fire protection program for Unit 1 have been fully implemented.

c. Implementation of Program Requirements at Units 2 and 3

Units 2 and 3 are required by Condition No. 2.C(14) to Facility Operating License No. NPF-10 and 2.C(12) to Facility Operating License No. NPF-15 respectively, to implement all provisions of the NRC approved fire protection program as described in the licensee's July 27, 1982 submittal and Supplement Nos. 4 and 5 to the SER.

The licensee provided notification to the NRC in LER Nos. 84-01, 84-15, 84-24, 84-30, 84-34 and 84-41 of discrepancies with the current fire protection program licensing bases as stated in the SER and its supplements. The licensee has met with the NRC staff on numerous occasions concerning these issues. During this inspection, members of the NRR staff participated in the inspection to obtain further clarification of the issues prior to issuing a revised interim SER that contains clarification of the licensee's commitments to conform to the NRC approved fire protection guidelines and requirements.

The NRR staff members summarized the results of their observations to the licensee at the exit meeting and indicated that the revised interim SER would be completed by the staff in late January or early February, 1988. In addition to verifying the licensee's approach to resolution of these issues, the inspector made the following observations:

(1) Addition of Health Physics Laundry Facility

The licensee installed a Health Physics Laundry Facility at elevation 63 feet, 6 inches between the Unit 2/3 auxiliary buildings. This addition to the facility was classified by the licensee's engineering department as Quality Class III and IV and was constructed to industrial standards in accordance with SCE Specification No. S023-210-27. The work was implemented under Design Change Package No. 6161.15C. Construction began on the facility addition on October 12, 1985 and was completed on April 3, 1986.

Access to the new laundry facility from the Unit 2 or Unit 3 auxiliary building is provided by double fire doors installed in the exterior walls of the auxiliary buildings. The double fire doors were required to be installed with appropriate automatic self-closing door hardware to maintain a fire resistance rating in accordance with governing code requirements.

Unresolved Item No. 361/86-34-03 documents the NRC's concern that the licensee did not properly administratively control the operability of these doors as required by the licensee's procedure No. S0-123-XIII-24 and the licensee did not install appropriate automatic self-closing door hardware on the doors pursuant to governing code requirements.

The licensee's internal incident report No. 2-003 identifies the omission of the installation of appropriate automatic self-closing door hardware on the doors during the period of May, 1986 through December, 1986. This hardware was required to be installed on the doors by DCP 6161.15C. However, apparently due to an oversight, the doors were installed without the appropriate automatic self-closing hardware. According to the licensee, this omission was detected by the licensee and corrected during the turnover process from construction to operations. The fire doors were inadvertently designated as Quality Class IV rather than Quality Class IV-FPS. Therefore, they were not included in the list of fire doors that are required to be administratively controlled by Technical Specifications.

The adequacy of the licensee's administrative control over fire rated assemblies (specifically fire doors) has been the subject of numerous special reports and LERs submitted to the NRC by the licensee. The NRC has received and is in the process of following up an allegation concerning Fire Barrier Removal Reinstallation Reports (FBRRR's) maintained by the licensee. Closure of this item will be included in the NRC's allegation followup on this issue and documented in a separate inspection report.

(2) Adequacy of Other Fire Barrier Installations

Several licensee special reports have documented deficiencies identified by the licensee with the qualification of fire barriers. During the inspection, the licensee discussed their approach to resolution of fire barrier penetration seal deficiencies and other fire barrier impairments. For penetration seals that have questionable fire ratings, the licensee indicated that a roving fire watch would be established as an interim compensatory measure during the period that the adequacy of the seals is being evaluated. If the results of the evaluation determine that a fire barrier penetration seal is not capable of performing its intended function, the licensee indicated that technical specification compensatory measures (continuous or periodic firewatch as appropriate) would be implemented until such seals are replaced by the qualified seals.

Other than potentially unqualified fire barrier penetration seals in Unit 2, the licensee indicated that all other Unit 2 fire rated assemblies are qualified and capable of performing their intended function. For inoperable or unqualified fire rated assemblies in Unit 3, other than fire barrier penetration seals, the licensee indicated that technical specification compensatory measures would be established until the fire rated assemblies are restored to their operable status.

This is considered an Open Item (361/87-33-01) pending further Region V action.

(3) Fire Brigade Staffing

During the inspection, the licensee and the NRC staff discussed the licensee's offsite fire department agreement with the Camp Pendleton Fire Department. The NRC staff members encouraged the licensee to maintain this offsite relationship. However, the staff was concerned that fire brigade responses offsite to provide assistance to the Camp Pendleton Fire Department could reduce the minimum fire brigade staffing required at the site at all times by Technical Specification.

In response to the staff's concern, the licensee indicated that administrative procedures governing the fire brigade activities would be revised to require that at least five members of the fire brigade remain on site at all times pursuant to Technical Specifications. The staff informed the licensee that this understanding of the NRC's Technical Specification requirements by the licensee would be reflected in the NRC's interim SER for Units 2 and 3 that will be issued in January or February 1988. This is considered an Open Item (361/87-33-02) pending further licensee action and Region V verification.

4. Safe Shutdown Capability

The licensee indicated that the required plant modifications for Unit 2 Appendix R compliance have been completed. The Unit 3 modifications will be completed during the scheduled January through March, 1988, Unit 3 outage. All Appendix R modifications have been completed on Unit 1. The inspector performed the following review to verify the adequacy of this Unit 1, 2 and 3 capability:

a. Safe Shutdown Procedures/Required Operator Actions

During backshift hours, the inspector requested that a control room shift supervisor explain the method of implementation of the Unit 1 Control Room Alternative Shutdown Procedure No. SO-3-9. The shift supervisor was knowledgeable of the procedure content, required operator actions and areas where the procedure interfaced with or was superseded by specific actions required by other procedures (i.e. SO-2.7.1 for Saltwater Cooling Pump Operation and SO-34 for Rapid Shutdown). The procedure and operator training on its implementation appeared to be satisfactory with one minor exception regarding required operator actions to obtain condensate storage tank level indication.

In response to the inspector's comments regarding the Unit 1 procedure's lack of specific instruction to operators to obtain condensate storage tank level indication, the licensee indicated that the procedure would be revised to include appropriate specific instruction on how to obtain the tank level indication locally.

The licensee indicated that the Unit 2 Control Room Alternative Shutdown Procedure was being revised to incorporate the Unit 2 completed Appendix R modifications (Procedure No. SO-2-3-XIII-2). The Unit 3 Control Room Alternative Shutdown Procedure (SO-2-3-XIII-2) is an interim procedure that requires manual isolation of fire induced faults by operators through replacement of fuses, manipulation of valves, local valve lineups and local measurement of essential plant process parameters. If safe shutdown train "B" is used because of fire damage to train "A", a control room re-entry will be required for Unit 3 within 90 minutes to monitor essential plant process parameters due to the lack of this capability for train "B" outside of the Control Room.

To implement the Control Room Alternative Shutdown capability for Units 2 and 3, the licensee indicated that currently, a total of 15 operators are required. This number may be reduced to 13 when the Unit 3 Appendix R modifications are complete. NRR is continuing it's review of this safe shutdown methodology and the appropriateness of the shutdown procedures. This is considered an Open Item (361/87-33-03) pending further licensee and NRC action.

5. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC, the licensee or both. Open items disclosed during the inspection are discussed in paragraphs 2, 3.c, and 4.

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. Unresolved items disclosed during the inspection are discussed in paragraphs 2.N and 3.A(1).

7. Exit Interview

The inspector met with the licensee representatives at the conclusion of the inspection on December 11, 1987. The inspector summarized the scope and nature of the inspection findings at this meeting. The licensee's representatives acknowledged the statements made by the inspector and the inspection was terminated.