

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

REGION V

Report No. 81-25

Docket No. 50-206 License No. DPR-13 Safeguards Group \_\_\_\_\_

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

Facility Name: San Onofre Unit 1

Inspection at: San Onofre, California

Inspection conducted: July 13-17, 1981

Inspectors: A. Chaffee 8/24/81  
A. Chaffee, Reactor Inspector Date Signed

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Date Signed

Approved by: G. B. Zwetzig August 24, 1981  
G. Zwetzig, Chief, Reactor Projects Section #1 Date Signed  
Reactor Operations Projects Branch

Summary:

Inspection on July 13-17, 1981 (Report No. 50-206/81-25)

Areas Inspected: Routine, unannounced inspection of licensee's Fire Protection/Prevention Program, IE Bulletin Followup, and Followup on Significant Event that Occurs During Inspection. This inspection involved 40 inspector-hours onsite by one NRC inspector.

Results: Of the three areas inspected, no items of noncompliance were identified in two areas; one item of apparent noncompliance (failure to establish required administrative controls for fire protection, paragraph 3B) was identified in one area.

## DETAILS

### 1. Persons Contacted

- \*E. Gault, Clerk-Typist
- \*D. Nunn, Manager, Quality Assurance
- \*B. Katz, Assistant Station Manager, Technical
- \*H. Morgan, Assistant Station Manager, Operations
- \*J. Curran, Plant Manager
- \*F. Briggs, Compliance Engineer
- \*J. Dunn, Project Quality Assurance Supervisor
- \*J. Haynes, Manager, Nuclear Operations
- \*L. Papay, Vice President, Advanced Engineering
- \*J. Reeder, Supervisor of Plant Coordination, Unit 1
- \*C. Seward, Fire Marshall, Unit 1
- R. Neal, Engineer

\*Denotes those persons who attended the exit interview.

Also present at the exit interview was the NRC Resident Inspector, L. Miller.

### 2. Follow-up on IE Bulletin 80-06 (Engineered Safety Feature (ESF) Reset Controls) (Open)

The inspector reviewed the following:

- a) Licensee response dated June 9, 1980.
- b) Cold S.I.S and Loss of Offsite Power Test conducted on May 9, 1981 (procedure S01-12.8-2).

Based on the above review and discussions with licensee personnel the inspector noted the following:

- a) The licensee's response dated June 9, 1980 appears to adequately address items 1, 3 and 4 of the Bulletin.
- b) The licensee performed the test required by item 2 of this Bulletin on May 9, 1981. This test demonstrated that all systems and components responded appropriately except for valves MOV 1100B, C and D, which returned to their normal mode upon ESF reset. The original drawing review done in accordance with Item 1 of the Bulletin failed to reveal this behavior. Further review performed after the test verified that the valves behaved as indicated in the existing drawings.

As presently designed, the valves automatically shift charging pump suction to the Volume Control Tank from the Refueling Water Storage Tank upon ESF reset. This results in the charging pumps drawing from an unborated water source rather than a borated source. The licensee has provided administrative controls to prevent this shift until equipment modifications can be made. (This control consists of a procedure change which requires the valves to be placed in the manual mode prior to resetting ESF.)

The licensee will submit a followup report describing the results of this test and proposed corrective action for the identified problem. This item will be reviewed further at a subsequent inspection.

### 3. Fire Protection/Prevention Program

#### A. Document Review

The inspector reviewed the following documents:

- 1) License No. DPR-13, paragraph 3.B, Technical Specifications (applicable sections) and paragraph 3.H "Fire Protection".
- 2) Fire Protection Safety Evaluation Report, section 6 dated July 19, 1979 (Note: This was appended to amendment 44 to License No. DPR-13).
- 3) Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station Unit one, dated March 1977.
- 4) Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance; as included in NRC letter dated August 19, 1977 to the licensee.
- 5) Division Order D-A-13, "Fire Protection", rev. 0, dated April 23, 1981.
- 6) Station Order S-A-2, "Fire Protection", rev. 22, dated February 1, 1980, through PCN 4.
- 7) Station Order S-A-10, "Station Inspections and Housekeeping" rev. 9, dated February 1, 1980.
- 8) Maintenance Procedure S-I-1.13, "New Cable Installations Through Existing Flame Barriers", rev. 3, dated October 4, 1978.
- 9) Station Order S01-M-105, "Fire Prevention During Open Flame Processes", rev. 3, dated July 22, 1980.

- 10) Station Order, S01-A-16, "Fire Committee", rev. 0, dated February 24, 1981.
- 11) Station Order, S01-A-134, "Fire Brigade Training and Retraining", rev. 0, dated June 27, 1980.
- 12) Emergency Procedure, S01-VIII-1.10, "Fire Fighting" rev. 1, dated April 24, 1981.
- 13) Operating Instruction, S01-7-1, "Fire Water System Operation", rev. 10, dated June 27, 1980.
- 14) Operating Instruction, S01-11-1, "Fire Water and Foam Systems Operation", rev. 0, dated March 16, 1981.
- 15) Nuclear Training Division Memorandum 6-81, "Fire Brigade Member Training Program", dated May 1, 1981.
- 16) Emergency Procedure, S01-VIII-1.6, "Plant Evacuation and Accountability", rev. 1, dated March 25, 1981.
- 17) Operating Instruction S01-11-2, "4KV Room Halon System Operations", rev. 0, dated January 28, 1981.
- 18) Operating Instruction S01-11-3, "Portable Fire Extinguishers", rev. 0, dated April 24, 1981.
- 19) Operating Instruction, S01-11-4, AWS Building Halon System Operation, rev. 0, dated March 31, 1981.
- 20) Nuclear Training Division Training Memorandum, 9-81, "General Employee Orientation Training", dated May 21, 1981.

B. Results of Document Review

Based on the above document review and discussions with licensee personnel the inspector determined that the licensee's administrative controls for fire protection are not in accordance with condition 3.H of the facility license.

License condition 3.H requires that administrative controls for fire protection be implemented in accordance with the controls identified in Section 6 of the Fire Protection Safety Evaluation Report. This section requires administrative controls be implemented in accordance with "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance" (hereafter referred to as the Guidance) which was included in an August 19, 1977 letter from the NRC to Southern California Edison. Comparing the licensee's administrative controls for fire protection to those listed in the Guidance, revealed the following apparent omissions in the licensee's program:

- 1) The licensee has not developed fire fighting strategies for all safety related areas and areas presenting a hazard to safety-related equipment. In particular the following areas have no written fire fighting strategies: Control Room, 480 Volt Switch Gear Room; DC Switchgear Room and Battery Room; Auxiliary Building; Turbine Building Upper Elevation and East, West, South Lower Elevation; Diesel Generator Building; Containment; and Yard Area.
- 2) The only areas that do have fire fighting strategies, (which are contained in Emergency Procedure SOI-VIII-1.10) are the Turbine Lube Oil Reservoir Area and the 4KV Room. However the strategies for these areas are not complete. In particular, the subjects listed in paragraphs d(3), d(4), d(5), d(7), d(8), d(9) and d(10) of Attachment 5 to the Guidance are not addressed.

In addition, the subject matter of paragraph d(6) of Attachment 5 to the Guidance, although partly addressed, is also not complete for those strategies that do exist.

- 3) The authority and responsibility of each fire brigade position relative to fire protection are not clearly defined as required by paragraphs f(1) and (2) of Attachment 1 to the Guidance.
- 4) The administrative controls for combustible material do not require in-plant review of proposed work activities to identify potential transient fire loads as required by paragraph b of Attachment 3 to the Guidance. (Note: This function is required to be assigned to an onsite staff member who should also specify the required additional fire protection in the work activity procedure, after taking total plant fire load into account.)
- 5) The licensee's administrative controls for ignition sources are not in accordance with the requirements of Attachment 4 to the Guidance. Specifically, Station Order SOI-M-105 "Fire Prevention During Open Flame Processes" and Station Order S-A-2 "Fire Protection" which are the only identified procedures in this area, do not address grinding or non-open flame cutting (e.g. by cutting wheel). Also the licensee's procedure does not require a physical survey of the work area by the responsible foreman or supervisor prior to issuing a permit.

C. Summary Concerning Apparent Items of Noncompliance

Each of the items listed above is an apparent item of noncompliance. However, all of the items appear to stem from a lack of understanding



on the licensee's part of license condition 3.H. In mitigation, it is noted that the documentation establishing these requirements is somewhat complex. In light of the common basis for these omissions, it is the inspector's opinion that these items taken together constitute one item of apparent noncompliance (OI-81-25-01).

D. Other Concerns

The above review of the licensee's administrative controls with respect to the Guidance also revealed the following concerns:

- 1) The Guidance requires the licensee to make "provisions for training offsite fire department personnel in basic radiation principles, typical radiation hazards, and precautions to be taken in a fire involving radioactive materials in the plant." The licensee stated in letter dated May 19, 1978 that "In the event of a fire emergency, all offsite fire department personnel would be escorted by an individual knowledgeable in basic radiation principles, typical radiation hazards, and precautions to be taken in a fire involving radioactive materials in the plant." This approach was stated to be used in place of the above requirement. In a letter dated June 21, 1978, the NRC appears to accept this position. However, at present it does not appear that the licensee is organized to implement either method. The licensee has stated he will reevaluate his program to assure compliance with one of these methods (OI-81-25-02).
- 2) Attachment No. 1 to the Guidance states: "The organizational responsibilities and lines of communication pertaining to fire protection should be defined between the various positions through the use of organizational charts and functional descriptions of each position's responsibilities. As a minimum the positions/organizations responsible for the following should be designated"...
- "c. The onsite management position responsible for the overall administration of the plant operations and emergency plans which include the fire protection and prevention program and which provides a single point of control and contact for all contingencies."

This requirement is not clearly addressed in the licensee's documentation. This item was also identified in Licensee Corrective Action Request (CAR S01-P-404).

Figure 6.2.3.1 of the Technical Specifications suggests that possibly the Industrial Safety and Fire Protection (ISFP) Supervisor is the position with the responsibilities and authorities described above. However, Station Order S-A-2, "Fire Protection" which is the controlling station document in this area, addresses the responsibilities and authorities of onsite positions but makes no mention of the ISFP Supervisor.

This was discussed with the ISFP Supervisor who agreed that his authority and responsibilities needed definition in S-A-2. The licensee committed to revise his procedures as required by paragraph C of Attachment 1 to the Guidance. This problem is to be addressed and corrected as part of a comprehensive fire protection program upgrade. (Note: This upgrade will incorporate corrective actions to respond to the licensee's Q.A. Audit concerns and the Inspector's concerns. The overall intent of this program is to bring all of the fire protection program into full agreement with the Guidance and all other regulatory requirements. The licensee is performing a preliminary evaluation prior to committing to a date for completion of this program upgrade (OI-81-25-03).

E. Facility Tour

During a tour of the facility the inspector noted that two non-qualified fire hoses were being used for backup fire protection of both diesel generator rooms. The inspector determined that these hoses were Bechtel construction hoses which had no documented hydrostatic tests (which qualified them for fire service) available for inspector review. This occurred during the period when the sections of the fire main supplying all normal fire suppression capability to the diesel generators was out of service to allow Bechtel installation of a TMI modification. This condition was brought to the attention of the licensee, who promptly replaced the hoses in question. The licensee further committed to provide appropriate administrative controls in this area within 30 days. (OI 81-25-04)

F. Overall Assessment

Despite the previously noted omissions and concerns, the inspector notes that significant improvements have been made in the licensee's fire protection program since issuance of the Fire Protection Safety Evaluation Report. The most significant improvements have occurred in the area of hardware additions (e.g. fire walls, halon , etc). The licensee has also increased his fire protection staff recently by hiring a Fire Protection Supervisor. However, it appears additional staff is needed to allow further development of the program in accordance with the Guidance in

a timely fashion. Also once the program is fully developed, a suitable staff will be needed to allow proper administration of the program. The licensee has budgeted additional personnel for this area for 1982. However, based on the inspection results it appears that the staff increases should be expedited. The licensee has committed to reevaluate his fire protection program needs in light of the Guidance.

4. Followup on Significant Event that Occurs During Inspection - Fire in Diesel Generator No. 1

During the course of this inspection, a fire occurred involving Diesel Generator No. 1 and the inspector observed the licensee's response to this event. It appeared that the coordinated effort between the Control Room operators in securing diesel promptly and the rapid response of the Fire Brigade was instrumental in limiting the fire to only 7 minutes, and thereby greatly reducing the damage to the diesel. At the time of the fire the water deluge system and normal backup fire hose station inside the diesel generator room were out of service due to TMI work. In place of these systems the licensee had established a fire watch, which provided surveillance for both diesel generator rooms, and had run fire hose from an operational fire hydrant to each diesel generator room.

5. Exit Interview

The inspector met with licensee representatives denoted in paragraph 1 on July 17, 1981. The results of the inspection were discussed and the licensee made the commitments described in paragraphs 3E and 3F.