U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/87-09; 50-361/87-08; 50-362/87-09

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: March 30 - April 3, 1987

Inspector: Charles Ramsey — 4/16/87
C. Ramsey, Reactor Inspector — Date Signed

Approved by: Stut R — 4/16/87
S. Richards, Chief — Date Signed
Engineering Section

Summary:

Inspection During the Period March 30 - April 3, 1987 (Report No. 50-206/87-09; 50-361/87-08; 50 362/87-09)

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 a routine fire protection program for Units 1, 2 and 3.

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

DETAILS

1. Persons Contacted

Southern California Edison

*C. A. Couser, Compliance Engineer
*N. R. Dickinson, E&C Project
*J. K. Yann, Project Engineering
*D. B. Schone, Quality Assurance Manager
*D. A. Dack, Quality Assurance
*D. M. Barreres, Emergency Preparedness
*M. A. Wharton, Deputy Station Manager
*A. J. Schramm, Operations
*R. D. Plappert, Compliance
*C. C. Meddings, Compliance
*R. K. Richter, Emergency Preparedness
*W. G. Zintl, Compliance Manager

NRC

J. E. Tatum, Resident Inspector

* Denotes those attending the exit meeting of April 3, 1987.

2. Licensee Actions on Previous Inspection Findings

A. (Closed) Part 21 Report No. 84-14 - "Automatic Sprinkler Corporation Mercury Check Device Leakage and Update on Model C Deluge Valves." This vendor notification reported the possible failure of automatic fire suppression systems protecting safe shutdown trains which utilize 6 inch, model "C" type deluge valves manufactured by Automatic Sprinkler Corporation.

In response to the vendor's notification and NRC Information Notice No. 84-16, the licensee analyzed the affects of a design basis fire in plant fire areas and determined that in all cases, each unit remained capable of achieving safe shutdown in the event that installed model "C" deluge valves failed to operate.

Furthermore, in accordance with the licensee's procedure no. S023-I-8.155, these valves receive a six month interval functional test. The procedure contains specific provisions for detecting possible valve failures. Based on the test results, the licensee determined that all of approximately fifty installed model "C" type deluge values have functioned properly with no failures recorded in the history of plant operations. Therefore, the licensee concluded that no further action was necessary in response to this part 21 report. Based on the licensee's conclusions, this item is considered closed.

B. (Open) LER 84-015 - "Fire Protection Program Discrepancies". As a result of the licensee's preparation of the Updated Fire Hazard Analysis (UFHA) and review of NRC Information Notice No. 84-09, the licensee issued forty nine (49) Nonconformance Reports (NCR's) identifying discrepancies between the licensee fire protection program and NRC fire protection requirements for Units 2 and 3. The licensee is required by condition nos. 2.c.(14)a and 2.c(12)a of Operating License Nos. NPF-10 and NPF-15 for Units 2 and 3 respectively, to meet the technical requirements of Appendix R to 10 CFR 50.

LER 84-015 reports that Units 2 and 3 do not meet the technical requirements of Appendix R to 10 CFR 50 as documented in the 49 NCR's. For some of these deficient conditions, the licensee implemented compensatory measures as required by plant technical specifications. For other deficient conditions such as the failure to assume a Loss Of Offsite Power (LOOP) coincident with a fire, the licensee took the position that no compensatory measures were necessary.

Resolution to these fire protection deficiencies has been the subject of numerous transmittals and meetings between the licensee and the NRC. Most recently, by letter dated March 13, 1987 (M.O. Melford - SCE to USNRC), the licensee agreed to submit the appropriate Appendix R compliance reports and analysis documentation to the NRC by April 30, 1987 to facilitate NRR's review.

Further, the licensee agreed to address the schedule for implementation of modifications necessary to achieve Appendix R compliance in Units 2 and 3. The licensee plans to meet with the NRC staff in Bethesda, Maryland on April 16, 1987 to finalize their understanding of the NRC's policy regarding Appendix R requirements.

During the inspection, the licensee indicated that LER No. 84-015 would be revised to reflect the current reportable fire protection deficiencies utilizing the Appendix R design basis and final resolutions reached between the licensee and the NRC staff during the scheduled April 16, 1987 meeting.

This item remains open pending further licensee and NRC action.

C. (Open) Violation (361/86-25-01) - "Missing Cerablanket Over Cables in Fifteen (15) Feet of Cable Tray No. UZIGATA3 for Regulatory Guide 1.75 Compliance."

In response to this Notice of Violation, the licensee implemented Maintenance Order (MO) No. 86100050001 and Fire Barrier Removal/ Reinstallation Report (FBRRR) No. 262649, which documented the reinstallation of the cerablanket material over cables in the subject cable tray. During the inspection, the inspector physically verified that this material was reinstalled on the subject cable tray as identified in the Notice of Violation. However, the licensee informed the inspector that it was their position that the corrective action for only the subject cable tray was insufficient.

According to the licensee, during the recent unit 3 refueling outage, all raceways inside containment were visually inspected to determine the extent to which they complied with Regulatory Guide 1.75. In four instances documented in Nonconformance Report (NCR) No. 3-1748, compliance with the criteria of Regulatory Guide 1.75 was found to be deficient. Furthermore, the licensee stated at the April 3, 1987 exit meeting that entire plant raceway walkdowns would be conducted to verify plantwide compliance with this criteria.

This item remains open pending Region V's verification of the results of the additional corrective actions taken by the licensee.

D. (Open) Open Item (361/83-35-03; 362/83-33-03) - "FSAR Table 7.4-1 and FHA Table I-16 Inconsistent Regarding List of Equipment Required For Safe Shutdown".

As part of the licensee's Appendix R analysis which is in progress, the Fire Hazard Analysis (FHA) will be updated as a result of the licensee's scheduled April 30, 1987 submittal to the NRC. According to the licensee, Table 7.4-1 of the FSAR will be revised to be consistent with Table I-16 of the FHA when the licensee submits the next scheduled FSAR update in February 1988.

This item remains open pending further licensee action and NRC verification.

E. (Closed) Open Item (362-86-08-01) Questionable Fire Loading Calculation.

In response to this NRC concern, the licensee revised "Control of Combustibles and Transient Fire Loads" Procedure No. SO123-XIII-13 to allow an acceptable conservative amount of combustibles (fixed and transient) to be stored in individual fire areas. Attachment Nos. 6 and 7 of this procedure references allowable transient combustibles in pound units as well as BTU's per square foot. However, no correlation is made in the procedure between the amount of combustibles allowed in specific fire areas and the amount of combustibles specified in individual fire areas in the fire hazard analysis.

During the inspector's review, the correlation between the allowable transient combustibles in the procedure and the combustible loading for individual fire areas analyzed in the fire hazard analysis was made. Where the procedure permits combustibles to be stored in excess of combustible loadings specified in the fire hazard analysis, added precautionary measures are required (i.e. fire watch and extra manual suppression capability).

During the inspection, the licensee indicated that further clarification of this concern would be made in their scheduled April 30, 1987 submittal to the NRC.

This item is closed based on the licensee's corrective actions.

3. Routine Fire Protection Program Implementation

The licensee is required by Appendix R to 10 CFR 50 for Unit 1, License Condition No. 2.c.(14)a and 2.c(12)a of Operating License Nos. NPF-10 and NPF-15 for Units 2 and 3 respectively, to maintain in effect and fully implement the fire protection plan as delineated in the Fire Hazard Analysis (FHA). The results of the inspector's assessment of the licensee's implementation of fire protection program requirements are as follows:

A. Organization and Staffing

The licensee has a competent and well managed organization capable of providing quality operations and fire protection activities in order to significantly reduce the risk of fire induced damage to facility operations. Uncommon to the Nuclear Industry, the licensee has provided and maintains a well trained and equipped dedicated site fire department. The inspector encouraged the licensee to maintain this voluntary concept because of the significant enhancement it provides to the facility's fire protection plan.

B. Quality Assurance

The inspector reviewed the results of preliminary Triennial Audit No. SCES-001-87, Technical Specification Audit Report No. SCES-003-86 and Annual Audit Report No. SCES-064-86. The audit findings were a result of a broad range, in-depth programmatic and hardware compliance review. While none of the audit results contained major findings, they did identify a number of deficient conditions.

The inspector followed up on fourteen (14) of the audit findings. Of these, 12 findings were promptly corrected by the licensee. The remaining two findings were in the process of being corrected.

Based on the inspector's review, it appears that the licensee's quality assurance program is effective in performing its function to the extent that reliability in the area of fire protection is being verified by qualified and competent individuals. In response to quality audit findings or NRC inspection findings, the licensee appears to have a system in place to promptly respond to identified deficiencies and initiate appropriate corrective action.

B. Technical Specification/Maintenance Surveillances

The licensee has implemented a preplanned inspection and test program to ensure quality performance of fire protection systems in accordance with original design bases and technical specification requirements for each unit. The test and inspection procedures utilized in this program contain a description of objectives; acceptance criteria used to evaluate results; prerequisites for performing tests or inspections, including any special considerations and limiting conditions.

Based on the inspector's review of 27 inspection and test surveillances for fire protection systems, the inspector determined the procedures used to simulate or demonstrate proper system or component functioning under normal or abnormal operating conditions to be adequate. The test and inspection results were documented and evaluated by qualified licensee staff to assure that appropriate design requirements were satisfied.

No violations or deviations were identified.

4. Observations Made During Plant Tours

During tours of the facility, the inspector made the following observations which appear to represent deficient conditions:

A. The separation criteria of Section III.G.2 of Appendix R to 10 CFR 50 is not met as required for redundant emergency diesel generator safe shutdown trains in the Unit 2 safety equipment tunnel, fire area/zone 2(SE)-30-142A and 2(CT)(-2)-142B. This condition also exist in the Unit 3 safety equipment tunnel.

B. The separation criteria of Section III.G.2. of Appendix R to 10 CFR 50 is not met as required for redundant Unit 2 auxiliary feedwater pumps in fire area/zone 2-TK-30-161A. This condition also exists in the Unit 3 auxiliary feedwater pump area.

C. The separation criteria of Section III.G.2. of Appendix R to 10 CFR 50 is not met as required for redundant auxiliary feedwater pump valves in fire area/zone 2-TK-(-2)-161B. This condition also exists in the Unit 3 auxiliary feedwater pump valve area.

D. The separation criteria of section III.G.2 of Appendix R to 10 CFR 50 appears to be inadequate in several areas throughout Units 2 and 3 (i.e. cable riser gallery, fire area/zone 2-AC-9-14) because intruding steel (unistruts/conduit/raceway supports) into the cerablanket envelopes protecting redundant safe shutdown trains does not appear to be adequately protected to provide equivalent fire resistivity.

E. Although the licensee has in place procedures to periodically inspect and maintain operable fire barriers protecting safe shutdown trains, in many areas throughout the facility (Units 2 and 3), the inspector observed the integrity of the cerablanket fire barrier wrap material as questionable. The material was missing in places, worn, deteriorated or otherwise disturbed to the extent that an equivalent thickness of the material was not applied for the entire length of raceway intended to be protected. The license acknowledged that this is a fragile material whose integrity can be easily disrupted by construction activities, applications of water or wetting agents, carelessness, etc. Therefore, the licensee indicated that as future raceway modifications are completed, this material will be replaced with a more durable fire rated material.

While the process of phasing the material out is evolving, the licensee indicated that consideration would be given to including instructions in employee and contractor training programs which highlight the necessity of maintaining the integrity of this material as part of individual employee/contractor responsibilities while performing fire barrier related or unrelated work activities in the facility.

For items A through D above, the licensee intends to address these apparent deficiencies in their scheduled April 30, 1987, submittal to NRR in conjunction with the licensee's response to LER 84-15. Appropriate interim compensatory measures are in place for each of these conditions.

This (items 4A, 4B, 4C, 4D and 4E) is considered an unresolved item (50-361/87-08-01; 50-362/87-09-01) pending further licensee action and NRC review.

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.B., 2.C. and 2.D.

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 4.A, 4.B, 4.C, 4.D and 4.E.

7. Exit Interview

The inspector met with the licensee representatives at the conclusion of the inspection on April 3, 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.