



Southern California Edison Company

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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
Diesel Generator Annual Report - 1993
San Onofre Nuclear Generating Station,
Units 2 and 3

The purpose of this letter is to provide the Emergency Diesel Generator Annual Report for 1993. The report is required by Technical Specifications 4.8.1.1.3 and 6.9.1 of Appendix A, Technical Specifications to Facility Licenses NPF-10 and NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The report, provided as Enclosure 1, includes the seven items requested in Regulatory Position C.3.b of Regulatory Guide (RG) 1.108 as revised by Generic Letter (GL) 84-15 for two valid test failure that occurred in 1993.

If you require any additional information, please let me know.

Sincerely,

Enclosures

cc: K. E. Perkins, Jr., Acting Regional Administrator, NRC Region V
M. B. Fields, NRC Project Manager, San Onofre Units 2 and 3
J. A. Sloan, NRC Senior Resident Inspector, Units 1, 2 and 3
Institute of Nuclear Power Operations (INPO)

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Emergency Diesel Generator Report
Southern California Edison Company
San Onofre Nuclear Generating Station
Units 2 and 3, Docket Nos. 50-361 and 50-362

Introduction

The following information is provided in accordance with Technical Specification Surveillance Requirement 4.8.1.1.3 and Regulatory Position C.3.b. of Regulatory Guide (RG) 1.108 as revised by Generic Letter (GL) 84-15. RG 1.108 requested information on seven items for each valid or invalid test failure.

Event Date: November 28, 1993

1. This event was a valid failure of the San Onofre Unit 3 Emergency Diesel Generator (EDG) 3G002. This failure occurred with San Onofre Unit 3 in Mode 5.
2. This was the first failure in the last 20 starts, and the third failure in the last 100 starts.
3. EDG 3G002 tripped after start on a generator differential signal during the integrated ESF system refueling test. The generator differential signal was generated when a electrical termination bolt on a roto-test switch fractured causing an opening in the generator differential circuitry. A lot-related material defect caused the bolt to fracture.
4. The roto-test switch with the fractured bolt was replaced and all other roto-test switches for each EDG were inspected. This inspection identified and replaced one additional bolt on a different roto-test switch. This second bolt is a test terminal and not normally in the circuit associated with EDG 2G003. Failure of this bolt would not have prevented EDG 2G003 from performing its ESF functions if required.
5. EDG 3G002 was unavailable from 0405 on November 28, 1993 to 1130 on December 1, 1993 as a result of this failure.
6. EDG 3G002 was in a 31 day testing mode during this time period.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.

Emergency Diesel Generator Report
Southern California Edison Company
San Onofre Nuclear Generating Station
Units 2 and 3, Docket Nos. 50-361 and 50-362

Introduction

The following information is provided in accordance with Technical Specification Surveillance Requirement 4.8.1.1.3 and Regulatory Position C.3.b. of Regulatory Guide (RG) 1.108 as revised by Generic Letter (GL) 84-15. RG 1.108 requested information on seven items for each valid or invalid test failure.

Event Date: November 1, 1993. (EDG was started on October 31, 1993)

1. This event was a valid failure of the San Onofre Unit 3 Emergency Diesel Generator (EDG) 3G003. This failure occurred with San Onofre Unit 3 in Mode 6.
2. This was the first failure in the last 20 starts, and the second failure in the last 100 starts.
3. EDG 3G003, was unloaded and manually stopped five hours into a 24 hour post maintenance operability test. The EDG was stopped because of unusual VAR indication and control. Indicated VARs dropped from the normal value of 3.13 MVARs to 1.3 MVARs and could not be adjusted.

The source of the problem was identified as potential transformer, PT3, that supplies the channel B automatic voltage regulator. Failure of the PT occurred because of an insulation breakdown. The insulation was not properly sealed because of an air gap created by a few turns of windings which were not properly laid down.

4. The failed potential transformer (PT) was replaced. Visual inspection of similar EDG PTs did not show any evidence of this type of problem.
5. This failure occurred during operability testing to allow returning the EDG to service following outage related maintenance. The EDG had been inoperable since October 13, 1993 at 0101, because of scheduled refueling outage work. As a result of this failure the time EDG 3G003 remained out of service was extended to 1520 on November 4, 1993.
6. EDG 3G003 was in a 31 day testing mode during this time period.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.