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SUBJECT: Provides EDG annual rept for 1990, per Tech Spec 6.9.1.4 & 4.8.1.1.3 of App A, respectively.

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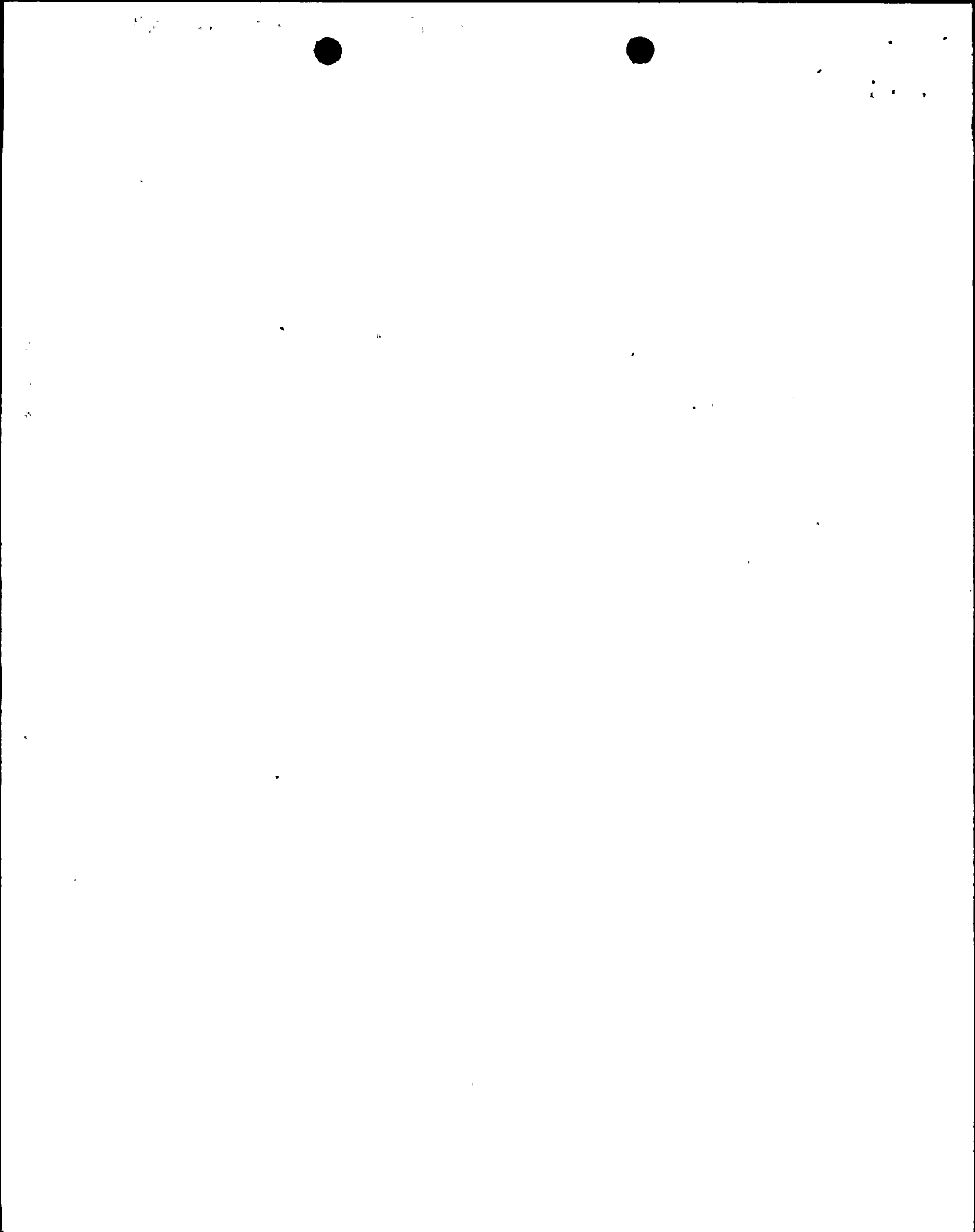
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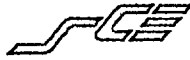
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February 25, 1991

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Subject: Docket Nos. 30-361 and 50-362  
Diesel Generator Annual Report - 1990  
San Onofre Nuclear Generating Station, Units 2 and 3

The purpose of this letter is to provide the Emergency Diesel Generator Annual Report for 1990 as required by Technical Specifications 6.9.1.4 and 4.8.1.1.3 of Appendix A, Technical Specifications to Facility Licences NPF-10 and NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. There were four valid test failures and two non-valid test failures during 1990.

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

Very truly yours,

Enclosures

cc: J. B. Martin (Regional Administrator, NRC Region V)  
C. W. Caldwell (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

Event Date: January 12, 1990

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 the following seven items for each valid or invalid test failure:

1. This failure involved a valid test of the San Onofre Unit 2 Emergency Diesel Generator (EDG) 2G002.
2. This was the first failure in the last 20 valid tests and the first failure in the last 100 valid tests of 2G002. (Reported as requested in GL 84-15.)
3. A post-maintenance operability test of 2G002 was terminated due to no indication of either field voltage or current with automatic voltage regulator (AVR) "B" selected. Operability was verified with AVR "A" selected.
4. Inspection revealed two burned fuses for AVR "B". The fuses were replaced and the EDG was tested satisfactorily with AVR "B" selected.
5. This event occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval remained at 31 days.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.



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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

Event Date: January 25, 1990.

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 the following seven items for each valid or invalid test failure:

1. This failure involved a valid test of the San Onofre Unit 2 Emergency Diesel Generator (EDG) 2G003.
2. This was the first failure in the last 20 valid tests and the second failure in the last 100 valid tests of 2G003. (Reported as requested in GL 84-15.)
3. During post maintenance testing, EDG 2G003 tripped on loss-of-excitation under full-load conditions. Investigation revealed that the loss-of-excitation was due to loose automatic voltage regulator fuse clips.
4. The automatic voltage regulator fuse clips were cleaned and tightened to provide positive contact and 2G003 was successfully retested for operability. Future plant equipment operator training will include proper fuse manipulations to prevent recurrence.
5. This failure occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval remained at 31 days.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.



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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

Event Date: August 2, 1990.

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 the following seven items for each valid or invalid test failure:

1. This failure involved a valid test of the San Onofre Unit 3 Emergency Diesel Generator (EDG) 3G002.
2. This was the first failure in the last 20 valid tests and the second failure in the last 100 valid tests of 3G002. (Reported as requested in GL 84-15.)
3. During post maintenance testing, EDG 3G002 tripped at 57 minutes into a one-hour operability test. Investigation revealed that an open circuit could be created across the primary fuse holder when the fuse was moved in it's holder. The loose fuse clips combined with normal operating vibration caused erratic operation of the automatic voltage regulator resulting in the "high stator overtemperature" alarm.
4. The automatic voltage regulator fuse clips were cleaned and tightened to provide positive contact and 3G002 was successfully retested for operability. Future plant equipment operator training will include proper fuse manipulations as was initiated in response to the failure of January 25, 1990.
5. This failure occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval remained at 31 days.
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

Event Date: August 3, 1990

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 the following seven items for each valid or invalid test failure:

1. This failure involved a valid test of the San Onofre Unit 3 Emergency Diesel Generator (EDG) 3G002.
2. This was the second failure in the last 20 valid tests and the third failure in the last 100 valid tests of 3G002. (Reported as requested in GL 84-15.)
3. During a post-maintenance operability test of EDG 3G002, one of the two 50% capacity emergency supply fans did not operate. These fans are required for cooling the room during EDG operation. The fans were not operable through manual or automatic control and the thermal overloads were found tripped.
4. The thermal overloads were replaced with qualified in kind parts and tested by manually starting the fan three times. A one-hour test run of the fan (3MA275) was performed on the third start.
5. This event occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval was reduced from 31 to 7 days.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.



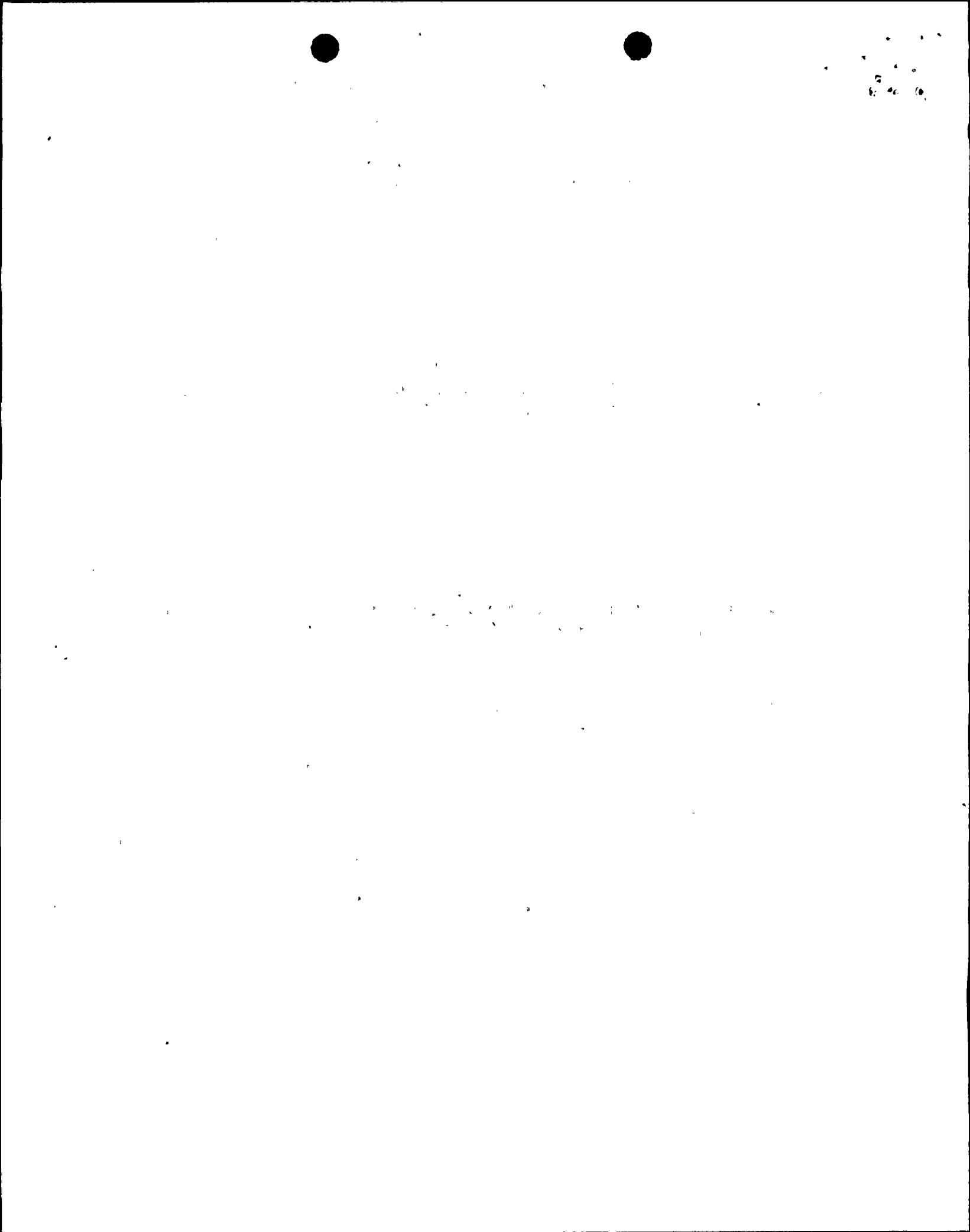
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Emergency Diesel Generator Report  
Southern California Edison Company  
San Onofre Nuclear Generating Station  
Units 2 and 3, Docket Nos. 50-361 and 50-362

Event Date: September 6, 1990

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 84-15. RG 1.108 requested the following seven items for each valid or invalid test failure:

1. This failure involved an invalid test of the San Onofre Unit 2 Emergency Diesel Generator (EDG) 2G003.
2. This event was not considered a valid test of 2G003.
3. During a post-maintenance operability test, EDG 2G003 tripped on high coolant temperature. The high coolant temperature was a result of the radiator fan power supply breakers being opened without either proper documentation or procedural direction.
4. The radiator fan breakers were closed and EDG 2G003 retested satisfactorily. A revision to the procedure will indicate that the radiator fan breakers should be tagged opened when the DC control power is tagged opened. The responsible individuals were counseled on the requirements for manipulating safety related equipment. An Operating Division Experience Report (2-90-22) has been prepared in response to this event.
5. This failure occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval remained at 31 days.
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

Event Date: September 21, 1990

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 84-15. RG 1.108 requested the following seven items for each valid or invalid test failure:

1. This failure involved an invalid test of the San Onofre Unit 2 Emergency Diesel Generator (EDG) 2G002.
2. This event was not considered a valid test of 2G002.
3. During post-maintenance functional testing, EDG 2G002 failed to develop either voltage or frequency and was manually shut down in response to the "breaker open" and "undervoltage/underfrequency" alarms. Another test attempt was made after switching from automatic voltage regulator (AVR) "B" to AVR "A". This second test resulted in an EDG trip on an over-excitation alarm. Investigation of the failure revealed that the line pot fuses were not installed when the EDG was being returned to service. This failure was a direct consequence of operator error.
4. A human performance event evaluation was initiated (HPES 90-021) and appropriate disciplinary action was taken.
5. This failure occurred during a period of inoperability previously scheduled for maintenance activities.
6. The surveillance test interval remained at 31 days.
7. The surveillance test interval was in accordance with the schedule of Technical Specification Table 4.8-1.

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