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T.S. 6.9.2

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Docket No. 50-353
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Limerick Generating Station, Unit 2
Special Report for Valid Emergency
Diesel Generator Test Failure

REFERENCE: Technical Specifications Sections 4.8.1.1.3 and 6.9.2

Attached is a Special Report being submitted pursuant to the requirements of Technical Specifications (TS) Section 6.9.2 as required by TS Surveillance Requirement 4.8.1.1.3. TS Surveillance Requirement 4.8.1.1.3 requires reporting of all diesel generator failures, whether valid or non-valid, within 30 days. The report is required to include the information recommended in Regulatory Position C.3.b of Regulatory Guide (RG) 1.108, "Periodic Testing of Diesel Generator Units as On-site Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977.

The attachment to this letter provides our response to the valid failure of the Unit 2 D21 Emergency Diesel Generator (EDG). This EDG failure resulted from a loose wire at the motor operated potentiometer which provides input to the electronic governor.

If there are any questions, please do not hesitate to contact Mr. James L. Kantner at (610) 718-3400.

Very truly yours,

Robert W Boyce

Attachment

cc: T. T. Martin, Administrator Region I, USNRC w/attachments
N. S. Perry, USNRC Senior Resident Inspector, LGS "

JE22

Special Report for LGS Unit 2
D21 Emergency Diesel Generator (EDG)

On February 24, 1996, the D21 Emergency Diesel Generator (EDG) was being run in accordance with Surveillance Test (ST) procedure ST-6-092-361-2, "D21 Diesel Generator Operability Verification," to verify operability and support the transferring of loads from the 20 Station Aux Bus to the 10 Station Aux Bus to allow maintenance work to be performed on the 20 Station Aux Bus. At 1720 hours, the D21 EDG was successfully started and bus loads were transferred. At 1750 hours, the D21 EDG was loaded to approximately 50% of rated load (i.e., 1450 KW) to begin a one hour run to remove excess oil from the exhaust system in accordance with the EDG manufacturer's recommendations. Approximately 29 minutes into the one hour run, the operator noticed that the EDG was loaded to 3300 KW. The operator immediately attempted to manually lower load from the main control room (MCR). As a result, load was reduced to approximately 2500 KW, but could not be stabilized by the operator. After observing a continuing downward drift in EDG load, the operator secured the EDG at 1819 hours and contacted the EDG System Manager. The D21 EDG was declared inoperable at 1820 hours due to the inability to control EDG load.

Subsequent troubleshooting included bench testing the test start auxiliary relay and the cross current control relay in addition to checking the wiring connections at these relays and at the electronic governor. No problems were identified with the relays; however, a loose wire was found at the output of the motor operated potentiometer (MOP). The MOP provides an input signal to the electronic governor. The vendor confirmed that this loose wire could have caused the load instability observed by the operator during the EDG run.

The following possible causes for the loose wire were considered. A stripped terminal screw was ruled out since the screw was able to be appropriately retightened. Vibration is unlikely since the panel containing the loose wire is not mounted on the EDG skid. Thermal cycling is also unlikely because the affected circuit is a low current circuit. Panel cleaning is a possible cause; however, numerous EDG runs have been successfully performed since the last cleaning in the area of the loose wire. As a result, a specific cause for the loose wire has not been identified.

The loose connection at the output of the MOP was tightened and a post-maintenance test run of the D21 EDG was satisfactorily performed. The D21 EDG was declared operable at 1510 hours on February 25, 1996. In addition, the D21 EDG was subsequently run on February 29, 1996, for the monthly surveillance testing required by Technical Specifications (TS). No problems were encountered during this run. All other Unit 1 and Unit 2 EDGs were checked for loose wires on the MOP and the electronic governor. No problems were identified.

The D21 EDG failure was classified as a valid failure using the guidance of Regulatory Guide (RG) 1.108, "Periodic Testing of Diesel Generator Units as On-site Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, Section C.2.e(5), because of the successful EDG start followed by the inability to control load for one hour, and because this failure would not be bypassed in the emergency operating mode of the EDG. Since this is the second failure in the last 20 valid demands, the surveillance testing frequency is changed from monthly to at least once per seven (7) days in accordance with TS Section 4.8.1.1.2.a.