



JOHN G. CESARE, JR.
Director
Nuclear Licensing

May 4, 1988

U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Document Control Desk

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Special Report 88-002/0
Diesel Generator Shutdown Due
to High Lube Oil Temperature
AECM-88/0099

On April 5, 1988 at 1810, Diesel Generator 11 was started for the monthly functional surveillance. The diesel generator had been loaded for approximately 30 minutes when a high lube oil temperature alarm was received. Normal lube oil temperature is approximately 170 degrees F to 180 degrees F. The high temperature alarm was received at 187.5 degrees F. Operators monitored the lube oil temperature and decided to shutdown the diesel generator after lube oil temperature was observed at 188.6 degrees F and increasing. Diesel Generators 12 and 13 and offsite power sources were available.

Maintenance personnel investigated and found that the high lube oil temperature was caused by failed power elements in temperature control valve 1P75-F501A. This thermostatic valve regulates the amount of jacket water flow through and around the jacket water cooler to control jacket water and lube oil temperatures. Power elements in the valve were replaced. The diesel generator was then successfully tested and returned to service on April 6 at 1335. Diesel Generator 11 was out of service for 18 hours.

The ultimate extent and consequences of the lube oil high temperature condition, assuming no adjustments are made to the thermostatic valves during emergency engine operation, is uncertain because the expected total lube oil temperature increase and the accompanying drop in lube oil pressure are not known. Therefore, the test is considered a valid failure pursuant to Regulatory Guide 1.108 Position C.2.e.(6). This is the third valid failure in the last 100 valid tests. The test frequency has been increased to at least once per 7 days in accordance with the test schedule of Technical Specification 4.8.1.1.2-1.

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These valves have malfunctioned in the past resulting in oil and jacket water temperatures outside of the normal operating range. Based on this experience, a frequency of 3 years was adopted for the replacement of the power elements. As a result the latest malfunction described in this special report, the current replacement frequency has been re-evaluated and a more conservative frequency adopted to preclude recurrence of this type of malfunction. The power elements in the jacket water thermostatic valves on Diesel Generator 11 and Diesel Generator 12 will be replaced each refueling outage.

Yours truly,

M. L. Crawford
for J.G. Cesare

JGC:rag

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