SYSTEM ENERGY RESOURCES, INC.
A Middle South Utilities Company

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Vice President
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January 17, 1990

U.S. Nuclear Regulatory Commission
Mail Station P1-137
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 89-009-00
Emergency Diesel Generator
11 Failure
AECM-90/0020

On December 18, 1989 at 2016, Operators started Diesel Generator 11 for performance of the monthly functional test in accordance with Technical Specification 4.8.1.1.2. The test was intended to verify system operability following planned maintenance.

The diesel was successfully started and loaded for approximately 56 minutes. At this time, the Potential Transformer Fuse Failure annunciator alarmed at the local operator's panel. Following the alarm, it was noticed that the Voltage Balance Relay right flag had dropped. The annunciator alarmed again and the local operator noticed that the left flag on the Voltage Balance Relay dropped. Shortly after the Potential Transformer Fuse Failure alarm cleared, several other alarms came in on the local panel, including Generator/Ground Overcurrent. When the Generator/Ground Overcurrent annunciator alarmed, the Diesel Generator output breaker tripped. The diesel continued to run in a stable condition; then field voltage and amps began to oscillate. Generator voltage was stable, pegged high, and then was stable again. The oscillations occurred again and the diesel was manually tripped from the Control Room. The diesel generator was then secured for a maintenance investigation.

No obvious problems were found during the maintenance investigation. The diesel was retested in an attempt to reproduce the original incident. During the test the output voltage and megawatts were increased and decreased to exercise their control circuits. The test was completed satisfactorily without recurrence of the original incident.

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After the surveillance run, another independent troubleshooting investigation was performed. No obvious problems which could have caused the event were found. However, some Potential Transformer fuse holders were found loose. There was no evidence of arcing on the holders. The fuses were removed and the holders were tightened.

SERI considered the test to be a valid failure pursuant to Position C.2.e(5) of the Regulatory Guide 1.108 since the ability of the diesel generator in this condition to power ESF loads in response to a bonafide signal is indeterminate. This was the second valid failure in the last 20 tests and the fifth in the last 100 valid tests. Therefore, the testing frequency was increased to once per 7 days in accordance with the test schedule of Technical Specification Table 4.8.1.1.2-1.

This Special Report is submitted pursuant to Technical Specification 4.8.1.1.3.

Yours truly,

WTC:cwg
Attachment

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