



ENERGY CENTER

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February 9, 1981

Director, Regional Operations Office  
U.S. Nuclear Regulatory Commission  
King of Prussia, PA

Dear Sir:

During a power outage on January 30, the emergency generator failed to maintain proper operating voltage (480V) and the generator cycled radically.

At approximately 1211, January 30, external power was lost to the entire University and the surrounding area. The emergency generator started and power was restored; however, the voltage was low and soon began to cycle radically. A senior operator went to the emergency generator room but was not able to discern the cause. To prevent damage to the generator, he secured the generator. (At the time of the outage, the reactor was secured.) Some of the larger loads were removed from the bus and the emergency generator restarted. The voltage was still low, however, there was no radical voltage swings. Normal power was restored at 1413.

A manufacturer's representative was called in to investigate. He arrived later that afternoon and traced the problem to an improperly positioned switch (the voltage regulator manual-auto switch). The voltage regulator acts as an automatic field rheostat which precisely controls the field current in order to maintain a constant output voltage of the generator. With the switch in the manual position, the generator was not capable of responding to various load conditions.

On February 2, a test was run to verify that this switch was actually the cause. Conditions were duplicated and a load test run with the voltage regulator switch in manual. The generator responded as it did on January 30. With the switch in auto, the generator responded properly.

A review of the logs indicate that the generator was operating properly on January 23. The switch (a simple toggle type switch) must have been inadvertently or accidentally positioned in the manual mode between January 23 and January 30.

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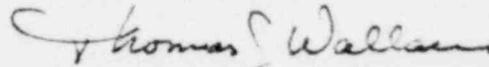
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To minimize the probability of this reoccurring, the following steps have been taken:

- 1) all personnel responsible for the operation and/or maintenance of the equipment have been advised of the importance of this switch being in the auto position;
- 2) a warning label has been added to the generator panel stating that this switch should be in the "auto" position;
- 3) plans are being made to either change the type of switch or remove it completely during the next manufacturer's maintenance period.

A report of this incident will be made to the Reactor Radiation Safety Subcommittee for further evaluation.

Sincerely yours,



Thomas J. Wallace  
Nuclear Reactor Supervisor

TJW/rb