A-111

GPC EXH. II-111

DOCKETED
USNRC

'95 JUL 27 P4:29

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

JIM SWARTZWELDER 5-9-90

Here is the ALM re-write to address George Fredrick's PRB comment to clarify this paragraph. If you have comments, please contact me by Thursday, 5-10-90, AM.

Thank you,
Tom Webb
x3105

Bring to PRB-

NUCLEAR REGULATORY COMMISSION GPC
Docket No. 50-424/425-OLA-3 EXHIBIT NO. II-111
In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2
☐ Staff ☒ Applicant ☐ Intervenor ☐ Other
☒ Identified ☒ Received ☐ Rejected Reporter KHW
Date 7/12/95 Witness Mosbaugh

92 PROJECT 057494

During the subsequent test run of the DG on 3-30-90, one of the switches (TS-19111) tripped and would not reset. This appeared to be an intermittent failure because it subsequently mechanically reset. This switch and the leaking switch (TS-19112) were replaced with new switches. All subsequent testing was conducted with no additional problems.

A test of the jacket water system temperature transient during engine starts was conducted. The purpose of this test was to determine the actual jacket water temperature at the switch locations with the engine in a normal standby lineup, and then followed by a series of starts without air rolling the engine to replicate the starts of 3-20-90. The test showed that jacket water temperature at the switch location decreased from a standby temperature of 163 degrees F to approximately 156 degrees F and remained steady.

Numerous sensor calibrations (including jacket water temperatures), special pneumatic leak testing, and multiple engine starts and runs were performed under various conditions. ~~After the 3-20-90 event,~~ In addition, the control systems of both engines were ~~have been~~ subjected to a comprehensive test program. ~~Subsequent to this test program, DG1A and DG1B have been started at least 18 times each and no failures or problems have occurred during any of these starts. In addition, an undervoltage start test without air roll was conducted on 4-6-90 and DG1A started and loaded properly.~~ After completion of the control logic test sequence, an undervoltage test was performed. Including the undervoltage test, each engine has been successfully started eleven times with no start failures.

Based on the above facts, it is concluded that the jacket water high temperature switches were the most probable cause of both trips on 3-20-90.

E. ANALYSIS OF EVENT

The loss of offsite power to Class 1E bus 1BA03 and the failure of DG1A to start and operate successfully, coupled with DG1B and RAT 1B being out of service for maintenance, resulted in Unit 1 being without AC power to both Class 1E busses. With both Class 1E busses deenergized, the RHR System could not perform its required safety function. Based on a noted rate of rise in the RCS temperature of 45 degrees F in 35 minutes, the RCS water would not have been expected to begin boiling until approximately 1 hour and 36 minutes after the beginning of the event.

Restoration of RHR and closure of the containment equipment hatch were completed well within the estimated 1 hour and 36 minutes for the projected onset of boiling in the RCS. A review of information obtained from the Process and Effluent Radiation Monitoring System (PERMS) and grab sample analysis indicated all normal values. As a result of this event, no increase in radioactive releases to either the containment or the environment occurred.

ALM rewrite

Numerous sensor calibarations (including jacket water temeperatures), special pneumatic leak testing, and multiple engine starts and runs were performed under various conditions. In addition, the control systems for both engines were subjected to a comprehensive test program. After completion of the control logic test sequence, an under voltage test was performed. Including the under voltage test each engine has been successfully started eleven times with no start failures.