TELECOPY TRANSMITTAL SHEET

TO:

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MESSAGE: PLEASE SEE ATTACHED

FROM:

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04-06-90 13:07 T-GA PWR CO 4045545314 #925 P01

FROM TELECOPY NUMBER (404) 554-5314

VERIFICATION NUMBER (404) 826-3175

EQUIPMENT: OMNIFAX 699

TELECOPY OPERATOR: Gloria M. Walker

SUPERVISOR: George Bockhold, Jr.

DATE: 4-6-90 TIME: 1:54

TELECOPY TO: C. K. McCoy

SONOPCO (205) 877-

NUMBER OF PAGES ATTACHED: 2 (NOT INCLUDING COVER SHEET)

THIS TELECOPY SENT FROM: George Bockhold, Jr.

DEPARTMENT: Management Staff EXT. NO.

VOGTLE ELECTRIC GENERATING PLANT
NUCLEAR OPERATIONS
ROUTE 2, BOX 1600
WAYNESBORO, GEORGIA 30830

SPECIAL INSTRUCTIONS:

ALM
Distr: WFK ✓
JES ✓
HMM
JGA ✓
MWH
EMD
KRH ✓
CPS
NAC RL

STATUS OF CORRECTIVE ACTIONS FOLLOWING

MARCH 20, 1990

SITE AREA EMERGENCY

On March 20, 1990, a site area emergency was declared due to a loss of offsite power concurrent with a loss of onsite emergency diesel generator capability. In accordance with VEGP procedures, an event review team has investigated the events leading up to and following the site area emergency. While the review team results are ~~considered preliminary~~ pending final management review and approval, the investigation is ~~considered~~ complete. These actions considered important for continued safe plant operation have been implemented. These include establishment of a management policy on control and operation of vehicles (see attached letter from George Bockhold to all site personnel); upgrading of emergency notification network communications (see attached letter from George Bockhold to all Emergency Directors and Communicators); complete retesting and calibration of both Unit 1 emergency diesel generator control systems; barricades to prevent unnecessary entry into plant switchyard areas; and communications of immediate corrective actions related to operations to licensed operators.

In addition, the event report also ~~includes~~ contains several longer-term recommendations which require additional management review and evaluation. These include the sequencing of outage activities; plant conditions during mid-loop operations; post-maintenance diesel functional testing; emergency notification system upgrades; changing diesel generator control logic; and evaluating the duties and responsibilities of the Emergency Director.

The most significant occurrence during the event of March 20, 1990, involved the failure of Diesel Generator (DG) 1A to remain ~~loaded~~ running to support shutdown cooling. The event critique team, ~~consisting of~~ utilizing utility and vendor technical experts has investigated the DG failure and provided the following facts:

a. During bench testing, all three jacket water temperature switches were found to be set high during the DG maintenance inspection in early March 1990 (by approximately 6-10 degrees F above the setpoint). All three were adjusted downward using a calibration technique that may have differed from that previously used.

b. Following the March 20 event, all three switches were again bench tested. Switch TS 19110 was found to have a setpoint of 197 degrees F which was approximately 6 degrees F below its previous setting. Switch TS 19111 was found to have a setpoint of 199 degrees F which was approximately the same as the original setting. Switch TS 19112 was found to have a setpoint of 186 degrees F which was approximately 17 degrees F below the previous setting. It was readjusted. Switch TS 19112 also had a small leak ~~but was judged to be acceptable to support diagnostic engine tests and was reinstalled.~~

c. During the subsequent test run of the DG on March 30, one of the switches ~~appeared~~ to be an ...

leaking switch (TS 1511E) were replaced with new switches. All subsequent testing has been conducted with no additional problems.

d. The Unit 1 jacket water temperature switches have been recalibrated with the manufacturer's assistance to ensure a consistent calibration technique.

e. Subsequent testing indicated that the diesel annunicator indication of March 20, 1990 is reproduced on a high jacket water temperature trip.

Based on the above facts, the event review team concluded that the jacket water high temperature switches were the most probable cause of both trips on March 20, 1990.

The following actions are being implemented to ensure a high state of diesel reliability.

1. A test of the jacket water system temperature transient during engine starts is in progress. The purpose of this test is 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 March 20.

2. Operators are being trained prior to their next shift to ensure that they understand that an emergency reset will override the high jacket water temperature trip.

3. The undervoltage start feature of the Unit 1 DGs has been modified such that the non-essential engine trips are bypassed. This change will be implemented on Unit 2 prior to April 30, 1990.

4. GPC is evaluating the possibility of a design change and Technical Specification change to delete the jacket water high temperature trip as an essential engine trip.

5. Since March 20, 1990, GPC has performed numerous sensor calibrations (including jacket water temperatures), extensive logic testing, special pneumatic leak testing and air quality reverification, and multiple engine starts and runs under various conditions. Completion of these corrective actions justify GPC's determination that the DG's are operable.

GPC will continue to work with the Transamerica DeLaval Incorporated Owners Group to improve DG reliability. GPC will also review possible improvements to protective instrumentation and controls and any additional engine enhancements will be scheduled for refueling overhaul periods.

GPC will continue to work with the IIT and an independent lab to identify the cause of failure of the temperature and pressure switches currently under quarantine.

ALM

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.