



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

April 3, 1992

50-424
50-425

Ms. Glenn Carroll
Georgians Against Nuclear Energy
Post Office Box 8574
Atlanta, Georgia 30306

Dear Ms. Carroll:

Your letter of February 13, 1992, has been referred to me for reply. In your letter, you express concern for a variety of problems affecting sensors manufactured by the California Controls Company (Calcon) and affecting the pneumatic logic of the emergency diesel generators (DGs) at Vogtle Electric Generating Plant, Units 1 and 2. You noted that Vogtle's DG 2A failed 6 times in 93 tests, and you recommended that the pneumatic logic be replaced by an electronic logic. You requested that the Commission analyze the testing history of the Vogtle DGs and that the Georgia Power Company (the licensee) immediately repair the four Vogtle DGs.

In a letter of March 13, 1992, the licensee advised the U.S. Nuclear Regulatory Commission (NRC) that replacing the Calcon temperature sensors and the associated pneumatically controlled instrumentation is not a practical option at the present time. The licensee considered an alternative of using electronic sensors and instrumentation but found this alternative to be an unproven design that had unproven reliability, and that did not provide a reasonable expectation of improved performance. The licensee found that, unlike the alternative, the Calcon jacket water temperature sensors used at Vogtle provide reasonable assurance that the trip logic associated with jacket water temperature will function as designed during nonemergency operation.

Nevertheless, the licensee continues to explore replacing the sensors with an electronic alternative. The licensee plans to examine adding "parameter monitoring" sensors to demonstrate reliability before reaching final conclusions for replacing trip-related sensors. Moreover, the licensee believes that it will need to obtain actual experience and perform further reviews before it could apply this alternate instrumentation.

You expressed concern for a variety of deficiencies for Calcon sensors discussed in NUREG-1410, "Loss of Vital AC Power and the Residual Heat Removal System During Mid-Loop Operations at Vogtle Unit 1 on March 20, 1990." After the event, the licensee removed all eight Calcon temperature sensors from the jacket water and lube oil systems of the two DGs for Unit 1 and sent them to Wyle Laboratories for evaluation and tests. After performing these tests, Wyle Laboratories and Calcon made several recommendations to enhance the calibration and operation of Calcon temperature sensors. The NRC listed these

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recommendations in its letter of July 17, 1990, to members of the Transamerica Delaval Incorporated Owners Group. These recommendations include the concerns expressed in your letter regarding calibration procedures, setpoint drift, and the presence of foreign material in the temperature sensors. The licensee fully implemented each of the recommendations at Vogtle by June 26, 1990. Since these improvements were implemented, no DGs at Vogtle have failed because of Calcon sensors.

You expressed concern about the testing history of DG 2A which had failed 6 times in 93 tests. In a more recent report, the licensee stated that, as of March 7, 1992, Vogtle's DG 2A failed 6 times during its total 126 valid tests. Four of the six failures occurred between January 24, 1990, and July 11, 1990, and were attributed to a common deficiency: inadequate manufacturing tolerances that caused the starting air valve pistons to "stick" in their cap assemblies. The licensee corrected this deficiency. As of March 7, 1992, DG 2A has experienced no valid failures in its last 20 valid tests and only 3 valid failures in the last 100 valid tests. None of these failures could be attributed to Calcon sensors.

I, view of the previous actions taken to improve the performance of Calcon sensors and the subsequent favorable performance at Vogtle and other nuclear plants with similar DGs, I find no reason to perform special reviews or to ask the licensee to replace Calcon sensors and the associated pneumatic logic. The NRC staff will continue to monitor DG performance at Vogtle and elsewhere and take appropriate actions whenever the situation warrants.

I appreciate your interest in this matter.

Sincerely,

Original signed by
Thomas E. Murley

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

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United States of America
Nuclear Regulatory Commission

In the Matter of:

Docket # 50-424-OLA

50-425-OLA

ALSBP #90-617-03-OLA

Appeal to Nuclear Regulatory Commission

OFFICIAL COMMUNICATION OF GEORGIANS AGAINST NUCLEAR ENERGY
WITH ADJUDICATORY EMPLOYEE JOHN L. KNOX

Georgians Against Nuclear Energy endorses the Commission's engagement of advisement on the issues relating to the diesel generators at Nuclear Plant Vogtle.

We request the Commission to perform an analysis of the testing history of the diesels at Plant Vogtle in order to provide information necessary for the Commission and John L. Knox to properly advise Georgia Power Company and assist them in solving their chronic problems with their TDI diesel generators.

It is our wish to obtain the diesel test results for the operating history of Vogtle and analyze them on behalf of the parties, however our efforts to obtain the documents have not borne fruit. It is our understanding that the NRC may acquire these documents from Georgia Power on request.

Our interest in the test results are driven by Appendix I, Section 3, of NUREG 1410 which shows myriad chronic problems with other Caicon sensors besides the high jacket water temperature switch which failed and caused the site area emergency on March 20, 1990. The lube oil low pressure sensor which has also repeatedly suffered calibration drift is still employed in emergency starts and its calibration drift problems pose a threat to the operability of the diesels.

Appendix J of Nureg 1410, p. J-27, contains a discussion of the problem of contamination of the diesels' pneumatic logic by thread sealant. This contamination has its roots in the high-maintenance needs and human intervention requirements of the pneumatic logic system. We believe the diesel testing information will support our position that,

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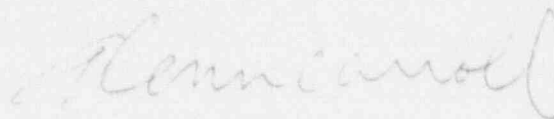
rather than repair the pneumatic logic and risk subsequent random and sporadic failures that will arise from the same human mistakes that occurred on and prior to the site area emergency of March 20, 1990, that the safety of people living in the vicinity of Plant Vogtle will be better preserved by replacing the pneumatic logic on the diesels with a less vulnerable electronic logic which is more automated and less subject to human error.

In our early efforts to obtain the diesel testing history from Georgia Power, GANE received a communication from Georgia Power which referred to Diesel 2-A as having experienced 6 failures in 93 tests. This poor reliability record for Diesel 2-A reinforces our contention that the problems that the diesels are having are chronic and that the diesels should be repaired so that their reliability will be in conformance with the requirement to power the nuclear plant's safety systems in a dangerous loss-of-station power incident. A study of the failures of the diesels at Vogtle will ascertain whether the significantly reduced reliability of the diesels is due primarily to the pneumatic logic or whether the generator failures are caused by even more flaws in the diesels.

GANE requests that Georgia Power immediately establish the causes of the diesel failures and effect repairs to the four emergency diesel generators at the nuclear plant.

GANE appreciates your continued attention to this matter and hopes that the parties will agree to repair the diesels before another serious loss-of-power accident occurs.

Respectfully submitted,



Glenn Carroll for
Georgians Against Nuclear Energy

Dated and signed in Decatur, Georgia
February 13, 1992

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