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March 13, 1992

W. G. Hairston, III  
Senior Vice President  
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ELV-03548  
4051

Docket Nos. 50-424  
50-425

TAC - M82914  
M82915

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

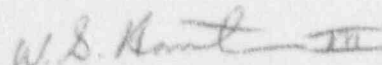
Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT  
REQUEST FOR ADDITIONAL INFORMATION  
REGARDING CALCON SENSORS

This letter responds to your request dated March 9, 1992, to provide specific information in order to facilitate the NRC Staff's response to the Commission's SECY-92-013, dated February 27, 1992 (the "Staff Requirements Memorandum").

The enclosure to this letter contains responses to the staff's requests. In each instance, the request is first set forth, with Georgia Power Company's response. As discussed with your staff, due to the short response time and the fact that Unit 2 is in a refueling outage, we were unable to respond by March 12 as you requested.

Sincerely,



W. G. Hairston, III

WGHI/III/NJS/clr  
Enclosures

xc: Georgia Power Company  
Mr. W. B. Shipman  
Mr. M. Sheibani  
NORMS

U. S. Nuclear Regulatory Commission  
Mr. S. D. Eoneter, Regional Administrator  
Mr. D. S. Hood, Licensing Project Manager, NRR  
Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

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ENCLOSURE  
VOGTLE ELECTRIC GENERATING PLANT  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE USE OF CALCON SENSORS

1. NRC Request:

On February 27, 1992, the Commission requested that:

The staff should inform the Commission whether the licensee has replaced or plans to replace the Calcon pneumatic sensors used in Vogtle's diesel generator (DG) instrumentation. In this regard, the Commission notes that various documents filed before the Licensing Board indicate that the licensee was considering replacement of the sensors. If the Calcon sensors have not been replaced, the staff should explain the rationale for the continued acceptability of the sensors.

We request that you inform us of the considerations that you gave to replacing the Calcon sensors used on Vogtle's DGs, the conclusions reached, and the bases for your conclusions. Include in your discussion any changes made or planned that affect the quantity, the manner of use, or reliability of Calcon sensors at Vogtle.

Georgia Power Company (GPC) Response:

Based upon extensive discussions with other licensees having diesel generators comparable to those at Vogtle and the demonstrated, acceptable operation and reliability of Vogtle's diesel generators, GPC has concluded that replacement of the sensors and associated pneumatic-controlled instrumentation is not a practical option at the present time. The Calcon jacket water temperature sensors utilized at Vogtle provide reasonable assurance that the trip logic associated with jacket water temperature will function as designed during nonemergency operation. An alternative utilizing electronic sensors and instrumentation was considered by GPC, but in light of the unavailability of a proven design with proven reliability, this approach does not currently provide reasonable expectation of improved performance.

In addition to the enhancements in calibration and maintenance procedures which have already been implemented (and have been extensively described in prior submittals in ASLBP No. 90-617-03-OLA), GPC continues to consider improvements in the reliability of the Calcon jacket water temperature sensors. Additional reliability of the diesel generators during emergency starts was assured as a result of the change in trip logic for the high jacket water temperature sensors (i.e., the high jacket water temperature trip is bypassed except during nonemergency operation, consistent with the majority of utilities surveyed by GPC). Georgia Power Company continues to explore a replacement of the sensors with an electronic alternative, examining first the addition of "parameter monitoring" sensors to demonstrate reliability, prior to final consideration of replacement of trip-related sensors. However, in GPC's view, actual experience and further review is a prerequisite to applying this alternate instrumentation.

ENCLOSURE (Continued)  
VOGTLE ELECTRIC GENERATING PLANT  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE USE OF CALCON SENSORS

As discussed in the response to request 2 below, changes have been made and are planned that affect the quantity and manner of use of the Calcon sensors.

2. NRC Request:

In your letter of January 10, 1991, you stated that Georgia Power Company was pursuing a change in the manner of bypassing the HJWT trip by implementing an automatic bypass on emergency starts of the DGs. Please discuss the results of your study, the subsequent instrumentation design, and its implementation status.

Georgia Power Company Response:

Georgia Power Company has implemented a design change on Vogtle Unit 1 whereby it is no longer necessary to manually bypass the high jacket water temperature trip during emergency operation. The change, which is also scheduled to be implemented on Unit 2 in the refueling outage which began on March 9, 1992, achieves an "automatic" bypass of the high jacket water trip signal on emergency starts. Subsequent to this design change, the only engine trip signals present with an emergency start will be engine overspeed, low lube oil pressure, and generator differential. Annunciation on high jacket water temperature (HJWT) (200°F) during emergency starts in both the control room and at the diesel generator control panels will operate. Prior to the change, this annunciation was inactive when the trip was manually bypassed. The prewarning high jacket water temperature alarm (190°F) remains active after the change, as it did prior to the change. During normal (nonemergency) starts, the HJWT sensor will continue to have both trip and annunciation capability.

Consistent with the change to automatic bypass during emergency starts, the HJWT trip logic has been modified to a one-out-of-one logic for nonsafety-related trips. Thermowells for the two removed sensors on each diesel are left in place. The manual isolation valves which are no longer needed are removed and replaced with tubing, thereby precluding inadvertent isolation of the sensors during nonemergency starts.

ENCLOSURE (Continued)  
VOGTLE ELECTRIC GENERATING PLANT  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE USE OF CALCON SENSORS

3. NRC Request:

You also indicated during the course of the earlier prehearing activities that consideration would be given to an alternate starting logic for the DGs. Please describe the results of this study, including the bases for your conclusions.

Georgia Power Company Response:

As explained in the response to NRC request 1, above, electronic instrumentation as an alternate to pneumatic instrumentation remains under consideration, but is currently not acceptable for safety-related functions.

4. Additional Information:

The Staff Requirements Memorandum requests the NRC Staff's views as to whether Regulatory Guide 1.9 "goes beyond" Appendix A, Criterion 17 requirements of 10 CFR Part 50. Georgia Power Company notes that the NRC Staff has previously addressed the application of Regulatory Guide 1.9, Revision 2, Position 7 to the bypass of the HJW trip during emergency starts of the Vogtle diesel generators (March 18, 1991 affidavit of Om Chopra, attached to NRC Staff Response to Licensing Board Order dated January 22, 1991, ASLBP No. 90-617-03-OLA). Georgia Power Company also observes that Regulatory Guide 1.9 addresses onsite electric power systems and capability of maintaining vital functions in the event of postulated accidents (i.e., within the design basis). Consequently, Regulatory Guide 1.9 does not address, or proscribe, operator action in response to scenarios outside the design basis of a licensed facility. Meeting the guidance in Regulatory Guide 1.9 for such scenarios, therefore, "goes beyond" Appendix A, Criterion 17.

Finally, in their letter dated February 13, 1992, GANE expressed concern regarding the fact that a previous communication from GPC referred to diesel 2A as having experienced 6 failures in 93 tests. As of March 7, 1992, diesel 2A has been subjected to a total of 126 valid tests with no more than the 6 failures mentioned by GANE in their February 13, 1992 letter. As of March 7, diesel 2A has experienced 0 valid failures in the last 20 valid tests and only 3 valid failures in the last 100 valid tests. None of these failures were attributable to the Calcon sensors. On this basis, the reliability of diesel 2A meets all regulatory requirements.