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Georgia Power
the southern electric system

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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

PLANT VOGTLE - UNITS 1, 2
NRC DOCKETS 50-424, 50-425
OPERATING LICENSE NPF-68
CONSTRUCTION PERMIT CPPR-109
RESPONSE TO REQUEST FOR
ADDITIONAL INFORMATION CONCERNING BULLETIN 85-03

Gentlemen:

By letter dated March 24, 1988, the NRC requested clarification of four points related to Georgia Power Company's (GPC) September 4, 1987 response to Bulletin 85-03. Two of the questions were addressed in our April 25, 1988 response. GPC hereby responds to the remaining two issues.

As noted in GPC's response to Bulletin 85-03, dated September 4, 1987, forty-nine valves were identified for testing pursuant to the Bulletin's requirements. Our initial response to your March 24, 1988 request for additional information, dated April 25, 1988, added two auxiliary feedwater system miniflow valves, FV-5154 and FV-5155, to those requiring action under the bulletin for a total of fifty-one valves. Twenty-two of those valves received dynamic differential pressure (dP) testing and were found to be acceptable. The remaining twenty-nine valves were not dynamically dP tested for reasons identified in the September 4, 1987 and April 25, 1988 responses.

We note that our earlier referenced correspondence referred only to the program for Unit 1, with the program for Unit 2 held in abeyance pending system completion/operational availability to support dynamic testing. We continue that approach in these responses.

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Question 1:

"Has water hammer due to valve closure been considered in the determination of pressure differentials? If not explain."

GPC's Response to Question 1:

The methodology contained in Appendix B to NEDC-31322 "BWROG Report and Operational Design Basis of Selected MOV'S", dated September 1986, has been used to calculate additional dPs due to water hammer for forty-eight of the fifty-one Bulletin 85-03 scope valves. The three other valves, HV-3009, HV-3019, and HV-5106, are in the steam supply line to the turbine driven auxiliary feedwater pump. The additional water hammer dP is, therefore, not considered significant. This philosophy is consistent with NEDC-31322.

In most cases of the forty-eight remaining fluid system valves evaluated, the calculation results indicate that the additional dP due to valve closure water hammer is less than 1% of the current maximum dPs. The worst case calculation resulted in a value approximately 7% higher than the current maximum dP. Based on these results, we conclude that no change in current testing practices or setpoints is necessary.

Question 2:

"If MOVATS is planned for application to some MOVs which are not included in its database, commit to and describe an alternate method for determining the extra thrust necessary to overcome pressure differentials for these valves."

GPC's Response to Question 2:

In an attempt to qualify the remaining twenty-nine valves, a discussion was held with MOVATS representatives regarding application of the MOVATS database. In general, it was concluded that the database leads to unacceptably conservative thrust values.

For the three steam supply valves to the turbine driven auxiliary feedwater pump, 1-HV-3009, 1-HV-3019, and 1-HV-5106, GPC did reference the MOVATS database to provide a basis of operability as noted in

item 6 of our September 4, 1987 response. System alignment to achieve the maximum differential conditions for dynamic dP testing on these would have required locking closed four of five safety relief valves. Establishment of this system configuration was considered impractical. However, the results of the vendor supplied thrust requirements used to set up these three valves were verified against the MOVATS database.

As noted in our September 4, 1987 submittal, sixteen suction valves were excluded from dynamic testing due to the differential pressures involved and to avoid potential pump damage from unintentionally starving a pump. Operability of those valves can be demonstrated during performance of the operating procedures noted below:

Suction valve	Procedure
1-HV-8807A & B 1-HV-8924 1-HV-8104 1-HV-5113, 1-HV-5118 1-HV-5119	14825-1 "Quarterly Inservice Valve Test"
LV-0112B, C, D & E -HV-8806	14850-1 "Cold Shutdown Valve Inservice Test"
1-HV-8923A & B	11105-1 "Safety Injection System Alignment for Startup and Normal Operation"
1-HV-8471A & B	11006-1 "CVCS Alignment for Startup and Normal Operation"

The static head developed during performance of these procedures represents the maximum practical differential pressure conditions permissible for testing. Vendor supplied thrust values, including the thrust necessary to overcome these pressure differentials, can thereby be verified to be adequate each time the valve is repositioned as part of these procedures.

Additionally, of the ten valves on the discharge piping of the Auxiliary Feedwater System (AFW), the eight AFW system discharge valves (used for flow control) were excluded from dynamic testing based upon their exemption from inservice test requirements pursuant to the

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provisions of the ASME code, Section XI, Subarticle IWV1200. The two AFW system miniflow valves are normally open valves which are required to open during accident conditions. They are, therefore, normally not active valves. However, the ability to overcome maximum dPs based upon vendor supplied thrust values (including the thrust necessary to overcome the pressure differential) of two of the auxiliary feedwater discharge valves, 1-HV-5132 and 1-HV-5137, has been demonstrated during the performance of pre-operational test 1-300-01 "Integrated Safeguards and Load Sequencing Test." Although the remaining six auxiliary feedwater discharge and two miniflow valves (1-HV-5150, 1-HV-5122, 1-HV-5125, 1-HV-5127, 1-HV-5134, 1-HV-5139, 1-FV-5154, and 1-FV-5155) were not included in this test, we believe that the results of the tests of valves 1-HV-5132 and 1-HV-5137 validate the vendor supplied thrust values for all eight auxiliary feedwater discharge valves and the two miniflow valves. All of these valves were set up using conservative signature analysis techniques with the valves in a static condition which envelopes the dynamic accident condition.

This letter concludes our response to the subject Bulletin for Unit 1. If you have any further questions in this regard, please contact this office.

Sincerely,

W. G. Hairston, III
Senior Vice President,
Nuclear Operations

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