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February 2, 1993

Docket No. 50-321

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

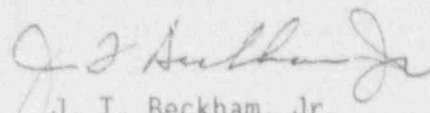
Edwin I. Hatch Nuclear Plant  
Delay of SRV Discharge Piping  
Support Modifications

Gentlemen:

As discussed in a conference call among Georgia Power Company (GPC) and the Nuclear Regulatory Commission (NRC) staff personnel on January 25, 1993, eleven Unit 1 SRV discharge line (SRVDL) pipe supports are scheduled for modification during the Spring 1993 outage. The piping system is currently considered fully operable but modifications are required for full code compliance. GPC is deferring these modifications based on recently performed analytical studies which indicate that the support loadings are smaller than originally calculated.

The enclosure provides a summary of our plans and details on the historical perspective of this issue. Please contact this office if you have questions or comments.

Sincerely,

  
J. T. Beckham, Jr.

GKM/cr

Enclosure: Delay of SRV Discharge  
Piping Support Modifications

cc: (See next page.)

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cc: Georgia Power Company  
Mr. H. L. Sumner, General Manager - Nuclear Plant  
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.  
Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II  
Mr. S. D. Ebner, Regional Administrator  
Mr. L. D. Wert, Senior Resident Inspector - Hatch

Enclosure  
Edwin I. Hatch Nuclear Plant  
Delay of SRV Discharge Piping  
Support Modifications

Summary

Georgia Power Company (GPC) intends to defer remaining modifications on eleven Unit 1 SRV discharge line (SRVDL) piping supports. The modifications are primarily the addition of larger capacity snubbers and mounting hardware to the SRVDL piping, and were originally scheduled for implementation during the upcoming Spring 1993 Unit 1 outage. Any required changes for full code compliance will now be implemented during the Fall 1994 Unit 1 outage. This issue was discussed with Nuclear Reactor Regulation (NRR) and Region II personnel by phone on January 25, 1993.

Our deferral is based on the following:

1. An operability evaluation comprised of calculations and engineering judgement determined the safety significance of this issue was not high, even using the existing, conservative load application methodology.
2. GPC is revisiting the load application methodology as part of a related issue on drywell structural steel. This revised methodology, while still conservative, shows substantial reductions in snubber loads. These load reductions will minimize the number of modifications needed.

Historical Perspective

As part of the Mark I Containment Long Term Program (LTP), the SRVDLs for Unit 1 and Unit 2 were analyzed for additional dynamic loads associated with SRV operation. The piping stress analysis for these dynamic loads was performed using the Bechtel SUPERPIPE computer program. In the course of utilizing the SUPERPIPE results for determination of SRV alternate shutdown cooling loads, it was observed that the forces in axial supports due to the SRV loading appeared too low when compared with segment loads exerted by the force time history. Bechtel concluded that the analysis did not include the pseudo-static response of higher (axial) modes since a cut-off frequency of 50 hertz was specified. They performed an operability evaluation on all 22 SRVDLs on both Unit 1 and Unit 2 and concluded that no safety concern existed, i.e., the SRVDLs were still operable.

Bechtel reran the dynamic analysis using the MF-101 computer program and confirmed the axial segment force time histories were not fully addressed. GPC was notified of this condition in 1989 and Bechtel indicated that the higher loads would result in, as yet, unspecified modifications to meet full code compliance.



Enclosure  
Delay of SRV Discharge  
Piping Support Modifications

The Bechtel load application methodology assumes rigid snubbers, struts, and structural steel which is consistent with industry practice. GPC requested that General Electric (GE) reanalyze one case which modeled the actual snubber and strut stiffness. GE completed this reanalysis in the summer of 1990. The loads were generally lower, but not enough to eliminate the need for modifications. GPC elected to retain Bechtel to complete the reanalysis and prepare the design change package. About half the modifications were completed for Unit 1 during the Fall 1991 outage. Parts unavailability for hydraulic snubbers prevented completion of all the modifications. Eleven snubber supports remain to be modified on Unit 1, and were scheduled to occur during the Spring 1993 outage. All modifications were completed for Unit 2 during the Fall 1992 outage.

As part of a separate effort, Southern Company Services (SCS) has recently investigated the cumulative effect of piping loads on the drywell structural steel. In August of 1992, SCS reported that the new, higher, SRVDL loads, combined with other support loadings and a very conservative static load application methodology, resulted in higher-than-expected stresses in the structural steel. Operability is not in question, but a refined analysis and/or modifications will be necessary to restore the steel to full compliance with American Institute of Steel Construction (AISC) standards.

GPC again requested GE refine the load application methodology used by SCS. The revised methodology will take credit for the dynamic nature of the pipe support loads and the structural stiffness of the pipe supports and structural steel. The first step in this process involves the calculation of new SRVDL pipe support loads. The new pipe support loads are generally much lower than the Bechtel pipe support loads for the one steamline analyzed.

GPC intends to complete the stress analysis on the drywell structural steel for the "test case" described above (i.e., one main steamline with 4 SRVDLs). If the revised methodology is successful in eliminating or substantially reducing required changes to the structural steel and the snubber supports, we would pursue using it on the other seven main steamlines in Unit 1 and Unit 2. GPC realizes that use of this methodology may require NRC approval.

In conclusion, based on our confidence in the successful application of the GE load application methodology and the strength of the current operability determination, GPC plans no additional modification to Unit 1 SRVDL supports or drywell structural steel during the Spring 1993 refueling outage. If the results of reanalysis are not successful in eliminating the need for all the snubber support modifications, then any required changes will be implemented during the Fall 1994 Unit 1 refueling outage.