

Georgia Power Company  
333 Piedmont Avenue  
Atlanta, Georgia 30308  
Telephone 404 526-3195

Mailing Address  
40 Inverness Center Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
Telephone 205 868-5581

the southern electric system

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

**HL-864**  
**0458V**

December 13, 1989

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

PLANT HATCH - UNITS 1, 2  
NRC DOCKETS 50-321, 50-366  
OPERATING LICENSES DPR-57, NPF-5  
REQUEST FOR INFORMATION ON  
SECONDARY CONTAINMENT PRECAST PANEL SEALING

Gentlemen:

As requested in a telephone call between Georgia Power Company (GPC) and Nuclear Regulatory Commission (NRR) personnel on November 29, 1989, this letter provides information on GPC's plans to recaulk and seal the Plant Hatch Unit 1 and Unit 2 refueling floor precast concrete panel walls. Specifically, the staff verbally requested details on the requirements and precautions which will be taken during the recaulking to ensure that secondary containment integrity can be maintained. The enclosure provides a brief description of the precast panels and the impact on secondary containment integrity during recaulking, as well as the requirements and precautions being implemented to control the work.

We believe the administrative controls and additional testing which will be in place during the performance of this task provide adequate assurance that secondary containment will be available, and that no unreviewed safety question exists. If you have any questions please contact this office.

Sincerely,

*W. G. Hairston, III*  
W. G. Hairston, III

GKM/eb

Enclosure: Request for Information Secondary Containment  
Precast Panel Sealing

c: (See next page.)

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U.S. Nuclear Regulatory Commission  
December 13, 1989  
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c: Georgia Power Company

Mr. H. C. Nix, General Manager - Nuclear Plant  
Mr. J. D. Heidt, Manager Engineering and Licensing - Hatch  
GO-NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.  
Mr. L. P. Crocker, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II

Mr. S. D. Ebneter, Regional Administrator  
Mr. J. E. Menning, Senior Resident Inspector - Hatch

ENCLOSURE

PLANT HATCH - UNITS 1, 2  
NRC DOCKETS 50-321, 50-366  
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REQUEST FOR INFORMATION ON  
SECONDARY CONTAINMENT PRECAST PANEL SEALING

Background

The secondary containment is a structure which encloses the primary containment and those components which may contain primary system fluid. The structure forms a control volume which serves to dilute fission products which may escape from primary containment following an accident. To minimize ground level exfiltration of post-accident fission products, while allowing the secondary containment to be designed as a conventional structure, the secondary containment requires support systems to maintain the control volume pressure less than external ambient pressure. The standby gas treatment system (SGTS) is designed to take suction from the control volume and exhaust it through appropriate treatment equipment, while maintaining a 1/4 inch (water) vacuum.

The Plant Hatch refueling floor is part of secondary containment and is shared by both units. Integrity of secondary containment is required at all times when either unit is operating. The secondary containment boundary at the refueling floor is formed by precast concrete panels. The design gap between a pair of precast panels is 1/4 inch and reduces to 1/8 inch at the panel tongue and groove mating point. This gap, or joint, is filled with backing and caulking. The backing alone is capable of providing leakage path sealing for maintaining the secondary containment boundary, however when the old caulking is removed, the backing will potentially also be pulled out and need to be replaced.

Design calculations of the drawdown capabilities of the SGTS assume a total inleakage area of 0.13 square feet. If the backing is removed with the caulking, and no other leakage path is assumed, this corresponds to about 12 linear feet of panel-to-panel joint. Administrative controls will restrict the length of the joint that can be exposed at any time for cases where backing is or is not installed. Periodic testing of the SGTS drawdown capability will be performed to verify the secondary containment is being resealed properly.

ENCLOSURE (Continued)

REQUEST FOR INFORMATION ON  
SECONDARY CONTAINMENT PRECAST PANEL SEALING

Controls, Requirements and Precautions

A special purpose procedure has been developed to provide adequate assurance that secondary containment integrity is maintained during the recaulking of the Unit 1/Unit 2 refueling floor precast panel walls. The procedure will allow no more than 12 linear feet of joint to be stripped without immediately replacing the backing materials, and no more than 52 linear feet of joint may be in an unsealed/uncaulked state at any time even with the backing material installed. Under no circumstances will any length of joint be left unattended without the backing material in place. Approximately 8300 linear feet of joints in the Hatch reactor building are to be resealed. Each small strip will have existing loose or deteriorated sealing and waterproofing material removed, the surfaces cleaned, and new sealant (caulking) and any necessary backing applied. Secondary containment integrity will be verified after a few sections are resealed (i.e., early in the process), after the job is complete, and at hold points corresponding to approximately one third and two thirds complete.

The 12 linear feet of exposed joint is equivalent to the 0.13 square feet inleakage area assumed in design, and represents a reasonable length of joint to work with in order to accomplish the job in a timely manner. The exposed joint may not be the only secondary containment leakage path. Therefore, in addition to the limitations described above, joints will not be exposed unless an appropriate length of backing is on hand for the worker. Also, the workers will maintain radio communications with the control room at all times. When work is being performed using scaffolding, backing material and radio equipment will be on the scaffold. Workers will be prepared to immediately close any open joint with backing material if directed to do so by control room personnel.

Considering the stringent controls limiting the gap size, the low probability of an accident which would cause significant fission products to be deposited in secondary containment, realistic accident progression time (i.e., time to core damage), and the short amount of time required for reinstalling the backing material, the administrative controls and precautions are reasonable and appropriate. Based on the above information, we can take credit for secondary containment being maintained throughout the caulking replacement activity.