Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address
Post Office Box 4545
Atlanta, Georgia 30302

Georgia Power
the southern electric system

L. T. Gucwa
Manager Nuclear Engineering
and Chief Nuclear Engineer

June 21, 1984

NED-84-318

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch No. 4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNITS 1, 2
RESPONSE TO GENERIC LETTER 84-09
HYDROGEN RECOMBINER REQUIREMENTS OF 10 CFR 50.44

Gentlemen:

In Generic Letter 84-09, the NRC concurred with the position that, if certain criteria are met, an inerted BWR Mark I containment does not require a hydrogen recombiner to meet the requirements of 10 CFR 50.44(c)(3)(ii). Per the instructions of that letter, we hereby provide the requested information regarding Plant Hatch conformance to the criteria and request that Plant Hatch Units 1 and 2 be considered exempt from the hydrogen recombiner requirement of 10 CFR 50.44(c)(3)(ii).

Georgia Power Company (GPC) has reviewed the stated criteria and has concluded that Plant Hatch Units 1 and 2 meet the necessary conditions. Unit 2 was originally licensed with a non-inerted containment and, therefore, had a recombiner installed during construction. However, Unit 2 containment was subsequently inerted and has a safety grade purge/repressurization system. GPC is preparing a submittal to request that the Unit 2 hydrogen recombiners be redefined in the licensing basis to be consistent with the licensing basis of Unit 1, and, therefore, exempt from equipment qualification requirements.

GPC was a participant in the BWR Owners Group (BWROG) Hydrogen Control Committee. The BWROG position is applicable to Plant Hatch. The following is a restatement of the criteria from your letter, followed by a discussion of Plant Hatch conformance to the criteria:

Criterion 1: "The plant has technical specifications (limiting conditions for operation) requiring that, when the containment is required to be inerted, the containment atmosphere be less than four percent oxygen."

A001
1/0

Plant Hatch Conformance: Technical Specifications require that, when the containment is required to be inerted, the containment atmosphere be less than four percent oxygen. Both units have a Technical Specification limiting condition for operation (LCO) specified if the requirement cannot be met.

Criterion 2: "The plant has only nitrogen or recycled containment atmosphere for use in all pneumatic control systems within containment."

Plant Hatch Conformance: Plant Hatch uses recycled containment atmosphere as the primary source, and nitrogen as a back-up source for all pneumatic systems inside containment. A cross tie from the drywell pneumatic system to the non-interruptable instrument air system is available if needed in an emergency. Use of air from the instrument air system is controlled by a removable spool piece, and would be used only in the unlikely event that the two normal pneumatic supply systems were lost.

Criterion 3: "There are no potential sources of oxygen in containment other than that resulting from radiolysis of the reactor coolant. Consideration of potential sources of inleakage of air and oxygen into containment should include consideration of not only normal plant operating conditions but also postulated loss-of-coolant-accident conditions. These potential sources of inleakage should include instrument air systems, service air systems, MSIV leakage control systems, purge lines, penetrations pressurized with air and inflatable door seals."

Plant Hatch Conformance: We have identified three potential sources of oxygen addition into the primary containment:

1) Use of the cross tie to the non-interruptable instrument air system- as stated in the discussion of criterion 1, the tie to the instrument air system is controlled by a removable spool piece and would be used only in the unlikely event that the two normal pneumatic supply systems are lost. Technical Specification requirements would result in operator action to maintain containment oxygen concentration below 4%.

2) H_2-O_2 analyzers use oxygen as a reagent to measure hydrogen concentration- the amount of oxygen reagent available to the H_2O_2 analyzer would, if added to the containment atmosphere, change oxygen concentration less than 1%. The worst credible failure in the H_2O_2 analyzer would result in a very slow leak into containment. Several weeks would be

Georgia Power

required before containment oxygen concentration changed a significant amount. The Technical Specification surveillance requirements, and the LCO on oxygen concentration assure that concentration would not be allowed to increase above 4%.

3) The leakage of secondary containment air into primary containment- Technical Specification requirements for allowable containment leak rates assure that inleakage is small under any circumstances. Further reducing the possibility of inleakage is the fact that primary containment is normally maintained at a positive pressure relative to secondary containment.

We conclude that there are no potential sources of oxygen which would increase oxygen concentration above the flamability limit. We further conclude that, based on the BWROG hydrogen control study and subsequent NRC investigations, Plant Hatch Units 1 and 2 should be considered exempt from the 10 CFR 50.44(c)(3)(ii) requirement for hydrogen recombiner capability.

Please contact this office if you have any questions or comments.

Very truly yours,

for L. T. Gucwa

PLS/

xc: H. C. Nix, Jr.
J. P. O'Reilly (NRC- Region II)
Senior Resident Inspector