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Georgia Power
the southern electric system

LCV-0453

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Docket Nos. 50-424
50-425

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

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
REQUEST FOR TECHNICAL SPECIFICATION CHANGES
ELIMINATION OF CONTAINMENT SPRAY ADDITIVE SYSTEM

In accordance with the provisions of 10 CFR 50.90 and 10 CFR 50.92, Georgia Power Company (GPC) hereby proposes to amend the Vogtle Electric Generating Plant (VEGP) Unit 1 and Unit 2 Technical Specifications, Appendix A to Operating Licenses NPF-68 and NPF-81.

This amendment will result in the deletion of Containment Systems specification 3.6.2.2, "Spray Additive System". This specification will be replaced with a new Emergency Core Cooling Systems specification 3.5.5, "ECCS Recirculation Fluid pH Control System". The Spray Additive System will be spared in place or removed, and the system will be replaced with an alternate means of pH control of the emergency core cooling system (ECCS) recirculation fluid.

The containment spray system (CSS) is an engineered safety features system that functions to reduce reactor containment building pressure and temperature and the quantity of airborne fission products in the containment atmosphere subsequent to a loss of coolant accident (LOCA). Pressure and temperature reduction is accomplished by spraying water into the containment atmosphere. Sodium hydroxide is currently added to the containment spray water to increase the pH which enhances absorption of the airborne fission product iodine, retains the iodine in the containment sump solution, minimizes hydrogen production, and inhibits stress corrosion cracking.

The CSS currently uses the spray additive tank (SAT) to provide the caustic containment spray. Technical Specifications require SAT related tests and maintenance to be performed. This testing and maintenance is resource intensive, and the handling of concentrated sodium hydroxide solution requires special precautions due to its hazardous nature.

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Draft revision 2 to the Standard Review Plan (SRP) section 6.5.2, "Containment Spray as a Fission Product Cleanup System", and industry precedence have made it possible to eliminate the spray additive portion of the CSS. The methodology of SRP 6.5.2 states that post-accident injection phase removal of elemental iodine (the predominant form) from the LOCA containment atmosphere is essentially independent of spray pH. This provides the basis for the elimination of the spray additive portion of the CSS, including the SAT, as well as the basis for the attendant Technical Specification changes.

The removal of the spray additive does not eliminate the need for adjusting the pH of the ECCS recirculation solution. To assure that the iodine removed by the sprays is retained in solution, to minimize chloride induced stress corrosion cracking of austenitic stainless steel components, and to minimize the hydrogen produced by the corrosion of galvanized surfaces and zinc-based paints, the long-term pH of the ECCS solution should be no less than 7.5. Since the initial pH of the boric acid ECCS solution, without spray additive, will be approximately 4.5, a chemical additive must be utilized to raise the pH of the solution in the containment building sump.

The proposed replacement for the liquid sodium hydroxide (NaOH) spray additive system consists of crystalline trisodium phosphate (TSP) stored in baskets located in the post-LOCA flooded region of the containment building.

The initial containment spray (injection phase) will be a boric acid (2400 to 2600 ppm range) solution from the refueling water storage tank (RWST), which has a pH of approximately 4.5. As the initial spray solution, and subsequently, the recirculation solution comes in contact with the TSP, the TSP dissolves, raising the pH of the sump solution to an equilibrium value of 7.5 or greater.

The proposed recirculation fluid pH control system will have the same function as the present spray additive system; that is, to mitigate the effects of a LOCA. The change to a passive pH control system will eliminate the possibility of an active spray additive component failure.

The spray additive tank will be drained and the associated valves will be closed upon implementation of the proposed change. Flow orifices in the associated piping will be replaced with blank plates to isolate the spray additive tank from the containment spray system and the refueling water storage tank. The components associated with the spray additive system will be either abandoned in place or removed.

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Georgia Power Company plans to replace the spray additive system during the next Unit 2 refueling outage in the Spring of 1995. The same change will be implemented during the Unit 1 refueling outage in the Spring of 1996. The Technical Specification changes are requested to be approved by January 31, 1995, in order to facilitate the replacement of the spray additive system during the next Unit 2 refueling outage.

This requested change is a Cost Beneficial Licensing Action (CBLA). The estimated savings over the life of both units is approximately $700,000.

Enclosure 1 provides a description of the proposed changes and the bases for the changes.

Enclosure 2 provides the basis for a determination that the proposed changes do not involve significant hazards considerations pursuant to 10 CFR 50.92.

Enclosure 3 provides the proposed changes to the Technical Specifications. Since VEGP uses combined Units 1 and 2 Technical Specifications, the proposed changes for each unit will be implemented in two phases. The first phase will include adding the new ECCS specification 3.5.5, "ECCS Recirculation Fluid pH Control System," applicable to Unit 2 only, to become effective during the next Unit 2 refueling outage in the Spring of 1995. The second phase will include deleting Containment Systems specification 3.6.2.2, "Spray Additive System" and making specification 3.5.5 common to both units during the Unit 1 refueling outage in the Spring of 1996. The requirements of specification 3.8.4.2 associated with the spray additive tank discharge valves will also be phased out in a similar manner. The index and Administrative Controls specification 6.7.4 will also be revised to reflect the above changes.

In accordance with 10 CFR 50.91, the designated state official will be sent a copy of this letter and all enclosures.

Mr. C. K. McCoy states that he is a vice president of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company and that, to the best of his knowledge and belief, the facts set forth in this letter and enclosures are true.

GEORGIA POWER COMPANY

By: C. K. McCoy

C. K. McCoy

Sworn to and subscribed before me this 13th day of September, 1994

Mary N. Bentley

Notary Public

Enclosures:

1. Basis for Proposed Change
2. 10 CFR 50.92 Evaluation
3. Proposed Technical Specification Changes

c(w): Georgia Power Company
Mr. J. B. Beasley, Jr.
Mr. M. Sheibani
NORMS

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

State of Georgia
Mr. J. D. Tanner, Commissioner, Department of Natural Resources