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May 1, 1996

Docket Nos. 50-321
50-366

HL-5154

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

Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information
Relative to Drywell Air Temperature

Gentlemen:

By letter dated February 21, 1996, Georgia Power Company (GPC) submitted to the NRC a request to revise the Plant Hatch Unit 1 and Unit 2 Technical Specifications to change the Drywell Air Temperature Limiting Condition for Operation from $\leq 135^{\circ}\text{F}$ to $\leq 150^{\circ}\text{F}$. In response to GPC's February 21 submittal, the NRC requested GPC to provide further information relative to drywell air temperature. The NRC's questions and GPC's response to each question are provided in the enclosure.

Please contact this office if you have questions or comments.

Sincerely,

J. T. Beckham, Jr.

IFL/eb

Enclosure: Response to Request for Additional Information
Relative to Drywell Air Temperature

cc: (See next page.)

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U. S. Nuclear Regulatory Commission
May 1, 1996

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cc: Georgia Power Company

Mr. H. L. Sumner, Jr., Nuclear Plant General Manager
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. Ebnetter, Regional Administrator

Mr. B. L. Holbrook, Senior Resident Inspector - Hatch

Enclosure

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NRC Question 1:

Does Plant Hatch have design bases assumptions for meteorological conditions? If so, is the potential for sustained extreme summer conditions bounded by these assumptions?

GPC Response:

The Plant Hatch HVAC design considers building and equipment heat loads, as well as environmental conditions, including river water temperatures, and industry accepted atmospheric conditions for Southeast Georgia. The Unit 1 and Unit 2 Final Safety Analysis Reports (FSARs) provide historical data on experienced average daily maximum temperatures and maximum river water temperatures. The Unit 1 and Unit 2 FSARs state that the Plant Service Water (PSW) and Residual Heat Removal Service Water (RHRSW) Systems' inlet water temperature for accident mitigation is 95°F. Administrative controls in plant procedures assure appropriate actions are taken if the river temperature were to reach 95°F. In addition to atmospheric conditions used for HVAC design input, temperature limits are established for specific equipment and components in the plant's buildings. Any plant actions would then be based on building conditions, and not on outside conditions.

NRC Question 2:

Are any design bases meteorological or river water temperature conditions being exceeded? If so, how is Plant Hatch addressing these conditions?

GPC Response:

Plant Hatch is not exceeding any design bases meteorological or river water temperature conditions.

NRC Question 3:

Does the proposed increase in drywell temperature affect the primary containment structure?

GPC Response:

General Electric (GE) and Southern Company Services (SCS) investigated the effects of a 150°F drywell temperature on the post LOCA drywell temperature and pressure responses, the containment loads, and the structural components within the drywell. The

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investigations revealed no adverse effects on the drywell structure, post accident drywell pressure and temperature responses, or containment loads.

NRC Question 4:

Could pipe supports be adversely affected by the proposed increase in drywell temperature?

GPC Response:

Pipe support stress levels from the combined loads due to deadweight, a design basis earthquake, and a loss of coolant accident (LOCA) are within the allowable values. Also, the analysis of thermal expansion of drywell piping systems is based on the difference between ambient (prior to drywell closure) and system operating temperatures. This difference is greater than the drywell bulk average temperature such that an increase from 135°F to 150°F is already bounded.

NRC Question 5:

Could the proposed increase in drywell temperature negatively impact the cooling of other equipment outside the design bases?

GPC Response:

The Drywell Cooling System for Unit 1 consists of six fan coil units served by PSW (P41). The Unit 2 system consists of eight fan coil units served by an independent Primary Containment Chilled Water System (2P64). A potential increase in drywell temperature in either unit will not increase the demand for cooling water from any other equipment inside or outside the drywell.

NRC Question 6:

Why do prolonged summer temperatures affect only the drywell?

GPC Response:

Prolonged summer temperatures can affect cooling of other equipment. However, the specified inlet temperatures for PSW and RHRSW are not exceeded, and all essential equipment is provided adequate cooling, as well as temperature monitoring and administrative controls for elevated temperatures.

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NRC Question 7:

How will environmental qualification (EQ) be affected by the proposed increase in drywell temperature?

GPC Response:

As specified in the Unit 1 FSAR Section 7.5.3.5.2.6 and Unit 2 FSAR Section 7.24.5.2.6, drywell air temperatures are monitored at 15 locations in each unit that represent all quadrants and various elevations. These temperatures are recorded on multipoint recorders in the main control room. Previous evaluations determined that small increases in bulk average temperatures do not affect equipment qualified life. Bulk average temperature is not used in any qualified life calculations for drywell equipment. Qualified life is based on the actual local temperatures experienced by the equipment as measured by the nearest resistance temperature detector (RTD), or an interpolation of the temperatures recorded by the two nearest RTDs. This method has been enhanced by the temporary installation (one operating cycle) of contact integrating thermal monitors (CITMs) in Unit 2 during the Fall 1995 refueling outage and the installation of data loggers for localized temperature measurement and recording during the Spring 1996 Unit 1 refueling outage.

The drywell is designed for normal operation at temperatures up to 150°F at an internal pressure ≤ 2 psig. Accident analyses are based upon a maximum drywell temperature of 150°F prior to the accident. As part of the recent Power Uprate Program, GE performed pressure/ temperature (P/T) analyses for the design basis LOCA and the most limiting inside-containment high-energy line break. All analyses assumed an initial temperature of 150°F. Due to the use of more refined analytical techniques, the maximum temperatures and pressures actually decreased from the values previously calculated. Therefore, the use of a bulk average temperature of 150°F is consistent with the P/T analyses presently used in the Plant Hatch EQ Program.

NRC Question 8:

What will be the frequency for monitoring ambient drywell temperatures to ensure EQ validity?

GPC Response:

Drywell temperatures are continuously monitored and recorded in the Main Control Room.