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Georgia Power

the state's electric utility

HL-2359
003829

August 4, 1992

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

PLANT HATCH - UNIT 2
NRC DOCKET 50-366
OPERATING LICENSE NPF-5
CONTINUED USE OF TEMPORARY
TECHNICAL SPECIFICATION AMENDMENT NO. 115
TRAVERSING IN-CORE PROBE OPERABILITY

Gentlemen:

On September 13, 1991, Georgia Power Company (GPC) submitted a request for a temporary revision to the Plant Hatch Unit 2 Technical Specifications (TS) to allow use of the traversing in-core probe (TIP) system with only three operable TIP machines. On September 30, 1991, a supplement to that request was submitted to specify the temporary revision would only apply during Unit 2 Cycle 10. The temporary revision was approved and issued on October 10, 1991 as Amendment No. 115 to the Plant Hatch Unit 2 TS.

On July 23, 1992, the indexing mechanism for the Unit 2 "B" TIP machine was found to be inoperable. Efforts to repair the indexer have been unsuccessful; thus, only three TIP machines are operable. Although the above temporary TS revision allowing use of the TIP system with only three operable TIP machines is still effective, the specific circumstances described in the initial submittal are no longer applicable. Therefore, GPC is submitting this letter to document the applicability of conclusions drawn in the NRC Safety Evaluation Report for Amendment No. 115 to the current situation and provide notification of our plans to continue operation under the provisions of Amendment No. 115 with TIP machine "B" inoperable.

The enclosure to this letter describes the circumstances surrounding the current situation and provides technical justification for the use of the TIP system with only three operable TIP machines in accordance with Unit 2 Technical Specification Amendment No. 115.

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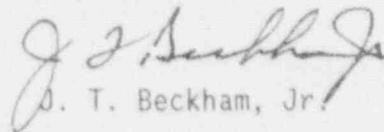
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The TIP system must be used to perform process computer program CD-1 to support the TS required LPRM calibration no later than August 9, 1992. GPC will repair the "B" TIP machine prior to startup from the next scheduled or forced reactor shutdown, whichever occurs first.

If you have any questions, please contact this office.

Sincerely,


J. T. Beckham, Jr.

ACM/cr

Enclosure

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. Ebnetter, Regional Administrator
Mr. L. D. Wert, Senior Resident Inspector - Hatch

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ENCLOSURE

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On September 13, 1991, Georgia Power Company requested a change to the Hatch Unit 2 Technical Specifications to allow power operation with only three transversing incore probe (TIP) machines in service instead of the normally required four machines (Reference 1). Each TIP machine is used to periodically determine the radial and axial power distributions in approximately one quarter of the core and to calibrate the Local Power Range Monitors (LPRMs) in those TIP locations when the process computer program OD-1 is run. As described in Reference 1, accurate power distributions can be determined and adequate core monitoring can be accomplished with only three TIP machines provided the core is operated in an octant symmetric manner and the total uncertainty associated with the TIP machines is less than the 8.7% assumed in the calculation of the Minimum Critical Power Ratio (MCPR) Safety Limit (Reference 2). When only three TIP machines are available, TIP data from symmetric, operable machines are used to provide data for locations normally monitored by the inoperable machine. Reference 1 contained technical justification for the requested change based upon the specific operating conditions up to that point in Cycle 10. Specifically, the Cycle 10 core had been loaded symmetrically and operated with octant symmetric "A" sequence rod patterns, and previous TIP traces provided enough data to conclude that the total TIP uncertainty (using substitute TIP traces for the inoperable "C" TIP machine) was less than 8.7%. In our September 13, 1991 submittal, GPC committed to repair the inoperable "C" TIP machine at the next forced outage or the next refueling outage, whichever came first.

In response to GPC's request, the NRC approved a change to the Hatch 2 Technical Specifications for the remainder of Cycle 10 which allows the use of only three TIP machines (Reference 3). During a forced outage in late January 1992, the inoperable indexing mechanism of the "C" TIP machine was repaired and it was returned to service. On July 23, 1992, Plant Hatch personnel determined that another Hatch Unit 2 TIP machine (the "B" TIP machine) would not index properly, apparently due to a problem in the indexing mechanism. In order for power operation to continue at a level greater than 25% of rated, an OD-1 must be performed no later than August 9, 1992 to calibrate the LPRMs. Since it will not be possible to use all four TIP machines to perform this operation without a forced outage to repair the "B" TIP machine, GPC will again be using substitute TIP data from a symmetric, operable TIP machine for TIP traces of the inoperable machine.

The purpose of this letter is to provide technical justification for performing the remaining Cycle 10 core power distribution determinations and LPRM calibrations (OD-1s) using only three TIP machines. No Technical Specifications

ENCLOSURE (Continued)

CONTINUED USE OF TEMPORARY
TECHNICAL SPECIFICATION AMENDMENT NO. 115
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change is required since the previous change was sufficiently broad to encompass this change. Furthermore, the technical limitations imposed in the NPC Safety Evaluation for Amendment No. 115 are still applicable and bound the current situation. In order to be able to use substitute TIP data, two conditions must be met:

1. The control rods must be in an octant symmetric pattern.
2. The total core TIP uncertainty must be less than or equal to 8.7%.

Previously, the first condition referred to an octant symmetric "A" sequence. By definition all "A" control rod patterns are octant symmetric; however, the requirement for valid TIP substitution is octant symmetry alone.

Since the "C" TIP machine was repaired in January 1992, the Cycle 10 core has been operated with quarter core (but not octant) symmetric rod patterns. As a consequence, no octant symmetric measured TIP uncertainty data are available since February 6, 1992 when the last OD-1 was run with an octant symmetric control rod pattern. Low TIP uncertainty is expected for Hatch 2 because the geometric uncertainty components are expected to be very small for gamma TIPs and the power distribution in the core has been relatively uniform during Cycle 10. In addition, three dimensional core simulation studies were performed to predict current TIP uncertainties. These studies indicate that the total measured TIP uncertainty would not exceed 2.8%, which is well within the 3.8% value needed for the total TIP uncertainty to be below 8.7% (see Reference 1). Therefore, the current TIP uncertainty is well within the required limit and, as long as an octant symmetric rod pattern is maintained, accurate power distributions can be obtained and the LPRMs can be properly calibrated for the remainder of the cycle with only three TIP machines in service.

This problem with the "B" TIP machine could not have been foreseen because all four TIP machines were operating properly until July 23, 1992.

As before, if a forced outage is encountered on Unit 2, the "B" TIP indexing mechanism will be repaired prior to restart. Otherwise, the problem will be corrected no later than the end of the scheduled Unit 2 Fall 1992 refueling outage.

ENCLOSURE (Continued)

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References

1. Letter (HL-1832) from J. T. Beckham, Jr. to NRC, dated September 13, 1991
2. NEDE-24011-P-A, Rev. 10, "General Electric Standard Application for Reactor Fuel," February, 1991
3. Letter from K. N. Jabbour to W. G. Hairston, III dated October 10, 1991