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Georgia Power

the southern electric system

NED-84-420

August 10, 1984

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 DOCKET 50-366
OPERATING LICENSE NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNIT 2
ADDITIONAL INFORMATION - REQUEST TO CHANGE
TECHNICAL SPECIFICATIONS CONTAINMENT ISOLATION VALVES

Gentlemen:

Our letter of August 6, 1984, requested expedited NRC action regarding proposed changes to the Unit 2 Technical Specifications in order to enable Unit 2 to resume operation on schedule. The present status of Unit 2 is as follows: Fuel loading is complete. RPV reassembly, hydrostatic testing, and final valve alignment prior to pulling control rods is scheduled for completion by about August 14, 1984.

Discussions with the NSSS vendor, General Electric Company, have lead to the following points:

1. According to General Electric Company, with regard to the subject valves' isolation signal, the Hatch 2 as-built design is the same as that of all domestic BWR-4 through BWR-6 plants.
2. The current Technical Specification (i.e., Table 3.6.3-1) is incorrect.
3. The probability of the subject valves being open (i.e., the valves are normally closed) coincident with a LOCA large enough to require a rapid ECCS response is low enough to be beyond the BWR design basis.
4. The ECCS analysis is not affected since the actuation signal assumed in the analysis is unchanged and the valves are assumed to be closed.

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The August 6, 1984, letter concluded that the actuation of the (ten) subject containment isolation valves at RPV level 1 is consistent with the original design of the plant as reported in the FSAR. This conclusion was based on information found in Chapter 7 of the Unit 2 FSAR as discussed below.

Chapter 7.3 of the FSAR identifies the low water level initiation signal for the RHR and Core Spray systems as having a trip setpoint of -146.5 inches. This is referred to in our August 6, 1984 letter as RPV level 1. Section 7.3.1.2.3.2 of the FSAR addresses the logic and sequencing for initiation of the Core Spray system. This section states that the Core Spray test bypass valves are closed and interlocked to prevent opening following the receipt of a Core Spray initiation signal (RPV level 1). Section 7.3.1.2.3.4 of the FSAR addresses actuated devices in the Core Spray system. This section also states that:

"Upon receipt of an initiation signal, the test bypass valve is interlocked shut... The signal received upon automatic Core Spray initiation overrides all other signals."

Similarly, Section 7.3.1.2.4.2 of the FSAR addresses logic and sequencing for initiation of the LPCI mode of the RHR system. This section also states that following receipt of a LPCI initiation signal, "valves in other systems (containment spray and RHR) are automatically positioned so that the water pumped from the suppression chamber is routed correctly." Section 7.3.1.2.4.3 states that "the valves that divert water for containment cooling are signaled closed on receipt of a LPCI system initiation signal."

As shown above, one of the ECCS initiation signals is RPV water level 1 (i.e., Reactor Vessel Water Level-Low Low Low). In addition, ECCS initiation will occur upon receipt of a high drywell pressure (2 psig) signal. Either ECCS initiation signal will cause the subject Core Spray and RHR system valves to align to their proper positions.

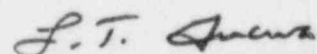
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The containment isolation function of the valves is provided by the same signals that initiate the ECCS systems. Either RPV low water level or high drywell pressure will initiate closure of the subject valves. Figures 6.2-25 and 6.2-30 of the Unit 2 FSAR show the containment pressure responses to a postulated recirculation system line break and a 0.1 square foot liquid line break. In both cases, the high drywell pressure trip setpoint is reached in less than 10 seconds. Figures 6.3-13 and 6.3-22 show the reactor water level inside the shroud following a recirculation system discharge line break and a 1.0 square foot line break. These two figures typify the initial water level changes for a range of break sizes prior to the injection of water into the vessel by the ECCS systems. These figures show water level remaining above both the RPV level 1 and RPV level 3 trip setpoints in excess of twenty seconds for the wide spectrum of postulated break sizes. The containment isolation function is provided first by a high drywell pressure signal, with the low reactor water level signal being received after the high drywell pressure signal. The proposed change to the Technical Specifications leaves the containment isolation performance unchanged as a result of the order in which isolation signals would be received. This is due to containment pressure causing ECCS initiation and containment isolation for the subject valves, prior to receipt of an ECCS initiation and containment isolation on low reactor water level. Although Unit 2 was not originally evaluated for conformance to the Standard Review Plan, the described actuation signal logic remains consistent with the acceptance criteria stated in Section 6.2.4 of the Standard Review Plan.

We have reviewed Technical Specification Table 3.6.3-1 to assure that no other Group 2 isolation valves have an incorrectly identified RPV water level initiation signal. The only remaining Group 2 valves in Table 3.6.3-1 are four radwaste system valves. These valves are designed to actuate on RPV level 3 or Drywell Pressure high signals, and are thus consistent with the Group 2 isolation actuation nomenclature in the table.

Also enclosed is a revised discussion of the no significant hazards determination originally submitted as Attachment 3 to our August 6, 1984 request.

Very truly yours,



L. T. Gucwa

RDB/mb
Attachment

xc: J. T. Beckham, Jr.
H. C. Nix, Jr.

J. P. O'Reilly (NRC- Region II)
Senior Resident Inspector
J. L. Leabetter

ATTACHMENT 3
NRC DOCKET NUMBER 50-366
OPERATING LICENSE NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNIT 2
10CFR50.92 EVALUATION FOR
REQUEST TO CHANGE ISOLATION ACTUATION SETPOINT
IN THE TECHNICAL SPECIFICATIONS FOR SIX VALVES

The proposed amendment would revise the Technical Specification isolation setpoint for each of the valves of Table 1 to make the setpoint consistent with the original design of the plant. Containment isolation valves listed in Table 1 (Attachment 1 to this letter) are associated with the RHR and Core Spray systems. These valves are normally closed and are designed to go closed on receipt of an isolation signal.

The present isolation value found in the Technical Specifications for the subject valves is Reactor Pressure Vessel (RPV) level 3. RPV level 3 is one of two isolation signals which is associated with Group 2 isolation. The existing Technical Specification for the subject valves erroneously states that the valves go closed on a Group 2 isolation. The original design drawings for the plant, however, state that the valves in question should go closed on a RPV level 1 signal.

The proposed change would replace "(Group) 2" with an asterisk and a footnote which reads "Closes upon actuation of the LPCI mode of RHR via a Low Low Low (level 1) signal from 2B21-N691A, B, C, D. Refer to item 2.b of Table 3.3.3-1" for the RHR system valves, and "Closes upon actuation of Core Spray via a Low Low Low (Level 1) signal from 2B21-N691 A, B, C,D. Refer to item 1.a of Table 3.3.3-1" for the Core Spray system valves.

BASIS:

This change is to make the Technical Specifications consistent with the original design basis, as identified by vendor drawings and instrument data sheets, and with the licensing basis provided in the FSAR. The design actuation point of each of the subject valves is consistent with the overall system design. The accident analyses, as reported in the FSAR, assumes that the Core Spray and RHR systems would be actuated at a RPV level 1 trip point. Actuation of the subject valves at RPV level 1 is consistent with the original design of the plant as reported in the FSAR. The probability of the normally closed valves being open coincident with a postulated LOCA is small enough to be beyond the design basis of the BWR and is therefore not considered in the ECCS analysis. The ECCS analysis and conformance with 10 CFR 50 Appendix K criteria are not affected by postulating closure of the valves at RPV level 1. Although Plant Hatch Unit 2 was not originally evaluated for conformance to the Standard Review Plan, the described actuation signal logic remains consistent with the acceptance criteria stated in Section 6.2.4. of the Standard Review Plan.

ATTACHMENT 3 (Continued)

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The change in isolation signal from RPV water level 3 to RPV water level 1 represents a decrease in margins for that isolation signal, however, because the proposed change continues to meet the acceptance criteria of 10 CFR 50 Appendix K and Standard Review Plan Section 6.2.4, the proposed change is consistent with Item (vi) of the "Examples of Amendments that are Considered Not Likely to Involve Significant Hazards Considerations" listed on page 14,870 of the April 6, 1983, issue of the Federal Register.