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Georgia Power
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April 22, 1986

Director of Nuclear Reactor Regulation
Attention: Mr. D. Muller, Project Director
BWR Project Directorate No. 2
Division of Boiling Water Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKET 50-321
OPERATING LICENSE DPR-57
EDWIN I. HATCH NUCLEAR PLANT UNIT 1
ADDITIONAL INFORMATION REGARDING
TECHNICAL SPECIFICATIONS CHANGE TO SUPPORT
HYDROGEN INJECTION TEST

Gentlemen:

Georgia Power Company's submittal of March 7, 1986, (Reference 1) requested changes to the Hatch Unit 1 Technical Specifications to support test injections of hydrogen into the reactor coolant. This submittal was based on submittals previously approved by NRC on several other dockets. However, the NRC staff has verbally (and via telecopy) requested additional information in regard to Georgia Power Company's submittal. The staff's questions, and Georgia Power Company's responses, are provided below:

Staff Question:

With regard to your survey program to be performed during the hydrogen injection test:

a. Provide a brief description of the criteria used and procedures followed in determining survey points inside and outside of the plant.

b. Describe the type of surveys to be performed, e.g., portable monitor, coolant sample, etc. Who will take readings? Hatch equipment?

c. Describe any changes required from normal Health Physics procedures.

d. Verify that main steam system dose rates will be monitored on a routine basis.

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Response:

a. Hatch Procedure 62RP-RAD-008-0, "Radiation and Contamination Surveys," provides survey points for all potentially radioactive areas of the plant. This procedure was used in the development of the Hydrogen Water Chemistry Mini-Test procedure, 42-SP-DCI-022-1S, which covers all phases of test implementation and provides survey points to be used in the test. These specific survey points were determined in conjunction with General Electric using lessons learned from previous hydrogen water chemistry tests at other sites. Plant Hatch ALARA personnel were consulted for plant-specific details. In general, higher radiation levels are expected in those areas of the plant containing main steam piping or equipment, such as the turbine deck.

b. For changes in the radiation field, site personnel will use conventional instruments to measure interior radiation field changes. For exterior survey points a high-pressure ion chamber (Reuter Stokes model number RS111 or equivalent monitor) will be used. The equipment for the exterior surveys will be operated by site (GPC) personnel under the direction of General Electric. All survey points will be individually marked to ensure that each survey is taken from the same point. Coolant samples will be analyzed and changes in chemistry monitored and recorded.

c. Standard Health Physics procedures will be followed, with additional personnel access limited during the mini test portion to minimize exposure due to changing radiation fields. Personnel not associated with the test implementation or associated radiation measurements will generally be restricted from areas of potential increased radiation levels. Additionally, the initial 3-day Mini-Test, which involves gradually increasing increments of hydrogen injection, will be performed on consecutive night shifts to minimize personnel radiation exposure.

d. In addition to the existing main steam line radiation monitor (MSLRM), additional remote monitors (GM-Tube) will be placed on the turbine deck and in the condenser bay to detect any changes in radiation fields in these areas. As these are normally high-radiation areas, they are not routinely monitored in accordance with ALARA goals to minimize radiation exposure to workers and Health Physics technicians.

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Staff Question:

It is proposed on [sic] Reference 1 that adjustments to setpoints for instruments which provide reactor scram and containment isolation on Main Steam Line high radiation will be allowed only above 20 percent rated power. It is necessary, however, to consider a postulated control rod drop accident (CRDA) occurring in the two following cases:

a. After an unanticipated power reduction to below 20 percent rated power during the course of a hydrogen injection test and:

b. After an unanticipated power reduction to below 20 percent rated power prior to setpoint readjustment following completion of hydrogen injection testing.

For each case, please describe the actions that will be taken to prevent the occurrence or mitigate the consequences of a control rod drop accident. Alternatively, provide revised analyses (in sufficient detail to allow staff review) that demonstrates that the consequences of a postulated CRDA in cases (a) and (b) still meet the acceptance criteria of SRP Section 15.4.9 and Appendix A to Section 15.4.9, especially with regard to the greater amount of fission product release to the condenser prior to MSIV closure.

Response:

Test injection will occur at power levels greater than 90 percent of rated power, and the MSLRM setpoints will be reset prior to any planned power reduction to below 20 percent. From the 90-percent power level, the only mechanism for an "unanticipated power reduction" to below 20-percent power is an abnormal operational occurrence (transient), such as a trip of one or both recirculation pumps. The simultaneous, or near-simultaneous, occurrence of this transient, along with the design basis CRDA, is beyond the design basis of the plant. Georgia Power considers it inappropriate to consider this and other speculated events beyond design basis.

Staff Question:

Please revise Attachment 2 Significant Hazards considerations to Reference 1 as appropriate if it is determined that the current FSAR analysis for

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Staff Question (Continued)

the DRDA [sic] does not conservatively bound the two accident scenarios discussed in the previous Staff Question.

Response:

Based on our response to the previous question, no further information is required.

Very truly yours,

L. T. Gucwa

REB/lc

c: Mr. J. P. O'Reilly
Mr. J. T. Beckham, Jr.
Mr. H. C. Nix, Jr.
Dr. J. N. Grace (NRC-Region II)
Senior Resident Inspector
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