



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 91 TO

FACILITY OPERATING LICENSE NPF-5

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-366

INTRODUCTION

By letter dated January 4, 1988 (Reference 1), Georgia Power Company (the licensee) requested changes to the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Unit 2, to permit hydrostatic and system leak testing using non-nuclear heat. Until the start-up of the Edwin I. Hatch, Unit 1, reactor in June 1987 at the end of that plant's tenth refueling outage, the licensee historically had used nuclear heat for performing the required hydrostatic and leak testing at both Units 1 and 2. However, the staff informed the licensee on April 10, 1987 (Reference 2) that the required ASME, Section XI system hydrostatic and leakage tests must be performed with the reactor non-critical, i.e., using non-nuclear heat. In order to accommodate this requirement for the hydrostatic and leak testing of Unit 1, the Commission issued Amendment No. 137 to the Hatch, Unit 1, license on May 26, 1987 (Reference 3) revising certain TS requirements. The changes to the Hatch, Unit 2, TS now proposed by the licensee (Reference 1) would make changes to the Unit 2 TS comparable to those TS changes previously approved for Unit 1.

The changes requested by the licensee are as follows:

1. A footnote would be added to TS Table 1.2 to allow the reactor to be considered as being in a COLD SHUTDOWN condition during the performance of hydrostatic and leak testing even though the reactor coolant temperature is above 212°F. This proposed change effectively provides an exception to operability requirements for the High Pressure Coolant Injection (HPCI) system, the Reactor Core Isolation Cooling (RCIC) system, the Automatic Depressurization System (ADS), and the Safety/Relief Valve (S/RV) system, as well as to the requirement for primary containment integrity, during the conduct of the hydrostatic and leak tests when the reactor coolant temperature is greater than 212°F.

2. Footnotes would be added to TS Table 3.3.2-1 and to Sections 3.6.5.1, 3.6.5.2 and 3.6.6.1 requiring the integrity of secondary containment and the operability of the Standby Gas Treatment (SBGT) system during the performance of hydrostatic and leak testing when the reactor coolant temperature is above 212°F.

3. TS Section 3.7.1.1 would be modified to require operability of the Residual Heat Removal Service Water (RHRSW) system during the hydrostatic and leak testing when the reactor coolant is above 212°F. An Action Statement also would be added to cover the RHRSW system during the performance of the testing.

EVALUATION

Each of the requested changes is evaluated separately below.

1. Exception to operability requirements for HPCI, RCIC, ADS and S/RV systems and to the requirement to maintain primary system integrity.

When performing the hydrostatic and leak tests using non-nuclear heat, the primary system will be water-solid with no steam available to drive the HPCI and RCIC turbines. These systems, therefore, cannot physically be operable during the conduct of the tests. In addition, performance of the hydrostatic testing requires test pressures greater than the lift pressures of the S/RVs and ADS so that these valves must be gagged to prevent their opening during the test. Finally, to allow frequent and unimpeded access to potential leakage points inside containment during the tests, relief is necessary to the requirement to maintain primary containment integrity.

The present TS requirements for operability of the HPCI, RCIC, ADS and S/RV systems are to ensure the capability for makeup of reactor vessel water inventory for decay heat removal in the event of a small leak with concurrent loss of feedwater capability and the main condenser unavailable. During hydrostatic and leak testing, control rods are fully inserted, the decay heat level is low following a refueling outage, and the reactor is maintained at or near cold shutdown conditions. Therefore, the intended function of the systems is not required when the hydrostatic and leak tests are being performed. On this basis, the staff concludes that the proposed change to the TS which will eliminate the requirements for system operability during testing when the reactor coolant temperature is in excess of 212°F is acceptable.

The use of non-nuclear heating to perform the hydrostatic and leak tests involves a non-critical core, water-solid conditions, low temperatures and low fuel decay heat values. Under these conditions, primary containment integrity is not required since the secondary containment will be operable (in accordance with proposed change 2) and capable of handling any airborne radiation or steam leaks that could occur. Under the test conditions, the potential for failed fuel and subsequent increase in coolant activity levels is mitigated and the amount of stored energy in the primary system is small. Under these conditions, the secondary containment and use of the SBT system are sufficient to adequately limit radioactive releases to the environment. On the basis of the expected minimal consequences of a potential release under the proposed test conditions, the staff concludes that primary containment integrity need not be maintained during the tests.

2. Added requirement that secondary containment integrity and operability of the SBT system be maintained during the hydrostatic and leak tests.

Proposed change 1 would allow primary containment integrity to be violated during the tests in order to provide for unimpeded access to observe potential leakage points inside containment. As discussed above, maintenance of secondary containment integrity and operability of the SBT system are both necessary and sufficient to adequately limit radioactive releases to the environment resulting from reactor coolant system leaks that could potentially occur during the hydrostatic and leak tests. On this basis, the staff concludes that the proposed changes requiring maintenance of secondary containment integrity and operability of the SBT system are acceptable.

3. Requirement that the RHR system be operable during the hydrostatic and leak tests.

The modifications to the definitions of HOT SHUTDOWN and COLD SHUTDOWN as the result of proposed change 1, above, would result in the RHR system not being required to be operable when performing the hydrostatic and leak tests at reactor coolant temperatures greater than 212°F. However, operability of at least one train of the RHR system with one pump is necessary to ensure sufficient cooling capacity for continued operation of the low pressure cooling systems. The changes proposed by the licensee ensure that at least a minimum RHR capability will be maintained during conduct of the hydrostatic and leak tests. The staff therefore concludes that this proposed change is acceptable.

ENVIRONMENTAL CONSIDERATIONS

The amendment involves a change in use of facility components within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (53 FR 3955) on February 10, 1988, and consulted with the state of Georgia. No public comments were received, and the state of Georgia did not have any comments.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

REFERENCES

1. Letter from J. P. O'Reilly, Georgia Power Company, to U. S. Nuclear Regulatory Commission, dated January 4, 1988.
2. Letter from J. H. Sniezek, USNRC, to J. P. O'Reilly, Georgia Power Company, dated April 10, 1987.
3. Letter from L. P. Crocker, USNRC, to J. P. O'Reilly, Georgia Power Company, dated May 26, 1987.

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