UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NPF-68

AND AMENDMENT NO. 70 TO FACILITY OPERATING LICENSE NPF-81

GEORGIA POWER COMPANY, ET AL.

VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

DOCKET NOS. 50-424 AND 50-425

1.0 INTRODUCTION

By letter dated March 17, 1995, as supplemented by letter dated July 6, 1995, Georgia Power Company, et al. (GPC or the licensee) proposed license amendments to change the Technical Specifications (TS) for Vogtle Electric Generating Plant (VEGP or Vogtle), Units 1 and 2. The proposed changes would revise TS 3/4.9.4, Containment Building Penetrations, to allow the personnel airlock to be open during core alterations or movement of irradiated fuel within the containment. The July 6, 1995, letter provided clarifying information that did not change the scope of the March 17, 1995, application and initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The applicable staff positions regarding opening of airlock doors during refueling operations are stated in Section 3.9.4 (Bases) of the Improved Standard Technical Specifications (NUREG-1431, Revision 1, "Standard Technical Specifications for Westinghouse Plants"). Applicable portions of the Bases are quoted below:

> The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO [Limiting Condition for Operation] 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, containment closure is required; therefore, the door interlock mechanism may remain disabled, but one air lock door must always remain closed.
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> The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted from escaping to the environment. The closure restrictions are sufficient to restrict fission product radioactivity release from containment due to a fuel handling accident during refueling.

> During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel [...]. Fuel handling accidents [...] include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.7, "Refueling Cavity Water Level," and the minimum decay time of 100 hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR [Part] 100. Standard Review Plan, Section 15.7.4, Rev. 1 [...], defines "well within" 10 CFR [Part] 100 to be 25% or less of the 10 CFR [Part] 100 values. The acceptance limits for offsite radiation exposure will be 25% of 10 CFR 100 values or the NRC staff approved licensing basis (e.g., a specified fraction of 10 CFR [Part] 100 limits).

As stated above, the basis for the staff position against simultaneous opening of both airlock doors during core alterations is to limit fission product leakage in the event of a design basis fuel handling accident. In performing analyses of the radiological consequences of a fuel handling accident, the criteria of Standard Review Plan Section (SRP) 15.7.4 are used. If fuel handling is prohibited when the containment is open, radiological consequences need not be calculated. If the containment will be open during fuel handling operations, automatic isolation by radiation detection instrumentation must be provided for penetrations and calculations must demonstrate acceptable consequences. However, automatic isolation of airlock doors is not practicable. The licensee has shown by analysis that the requirement for airlock closure need not be applied to VEGP and a TS amendment has been requested to reflect this conclusion.

The staff evaluated the potential radiological consequences of a fuel handling accident at VEGP, based upon the conditions of the proposed TS changes. The staff reviewed the licensee's submittals; however, the staff did not rely solely on them for determining the acceptability of the proposed changes. Instead, the staff performed an independent analysis to determine conformance with the requirements of 10 CFR Part 100 and General Design Criterion (GDC) 19 of Appendix A to 10 CFR Part 50. The staff's analysis used the accident source term given in Regulatory Guide 1.4, the assumptions contained in Regulatory Guide 1.25, and the review procedures specified in SRP Sections 15.7.4 and 6.4. The staff assumed an instantaneous puff release of noble gases and radioiodines from the gap and plenum of the broken fuel rods. These gas bubbles will then pass through at least 23 feet of water covering the fuel prior to reaching the containment atmosphere. All airborne activity reaching the containment atmosphere is assumed to exhaust to the environment within 2 hours. As stipulated in the proposed TS change, the gap activity is assumed to have decayed for a period of 100 hours.

The staff computed the offsite doses for VEGP using the above assumptions and NRC computer code ACTICODE. Control room operator doses were determined using the methodology in SRP Section 6.4. The computed offsite doses and control room operator doses are within the acceptance criteria given in SRP Section

15.7.4 and GDC 19. The assumptions used in calculating those doses and the resulting calculated values are attached in Tables 1 and 2.

The proposed changes to the TS will result in delayed containment closure in the event of a fuel handling accident. However, the staff has concluded that the radiological consequences associated with this accident are within the acceptance criteria set forth in 10 CFR Part 100 and the control room operator dose criteria specified in GDC-19 of Appendix A to 10 CFR Part 50. Accordingly, the licensee's proposal is acceptable.

In addition to the changes to TS 3/4.9.4, the licensee proposed editorial changes to the index of the TS and to TS page 3/4 6-10. The staff reviewed the licensee's proposed changes and found them to be acceptable editorial corrections to the TS.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 35077 dated July 5, 1995). Accordingly, the amendments meet 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 amendments.

5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment:
Tables 1 and 2

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Date: November 30, 1995