



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 217 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 233 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 191 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3

DOCKET NOS. 50-259, 50-260, AND 50-296

1.0 INTRODUCTION

On September 29, 1993, the Tennessee Valley Authority (the licensee) requested amendments for the Technical Specifications (TS) for the Browns Ferry Nuclear Plant (BFN) Units 1, 2 and 3. These changes to Technical Specification 3.4.C will increase the amount of Boron-10 that must be stored in the Standby Liquid Control System (SLCS) Solution Tank. The change is required to ensure adequate safe shutdown margin for future fuel cycles:

2.0 EVALUATION

The current Limiting Condition for Operation 3.4.C, "Sodium Pentaborate Solution," will be revised to require at least 186 pounds Boron-10 instead of at least 180 pounds Boron-10. This change is necessary to ensure the ability of the SLCS to maintain the boron concentration required for cold shutdown for future anticipated core configurations. A previous calculation omitted the Residual Heat Removal (RHR) stagnant water leg piping which represents approximately 700 cubic feet of water volume. This additional volume of water requires the amount of Boron-10 stored to be increased by 6 pounds. The current tank concentration is adequate for the current fuel cycle.

The requirement for total Boron content comes from the design of the SLCS. The SLCS is designed to make the reactor subcritical from the rated power to a cold shutdown with the control rods remaining withdrawn at any time in core life. The minimum bounding concentration of boron to achieve cold shutdown for the anticipated future cycles is 660 ppm. Increasing the amount of Boron-10 stored in the SLCS Solution Tank will restore the ability of the SLCS to maintain the Boron concentration required to ensure cold shutdown for future anticipated core configurations.

The increase in the minimum storage requirement of the SLCS solution tank ensures the SLCS will be able to maintain adequate shutdown margin. Therefore, this change is acceptable.

ENCLOSURE 4

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3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Alabama State official was notified of the proposed issuance of the amendment. 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. 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. (59 FR 29635). 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 upon 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 (3) issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: February 28, 1995

