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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 82 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated March 13, 1990, Duke Power Company, et al. (the licensee) proposed changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TSs) 3.1.2.5 and 3.1.2.6 and associated Bases to revise the required volumes for the Boric Acid Tank (BAT) and Refueling Water Storage Tank (RWST). In the current TSs, the unusable tank volumes are not taken into account as is assumed in their associated Bases 3/4.1.2, "Boration Systems." Hence, the current TS calculations do not accurately reflect the volumes necessary for the tanks to perform their required safety function.

The inaccuracy of the current TSs was discovered during the review of a plant modification for necessary procedure changes. Following the discovery, a Duke Power Problem Investigation Report was initiated and a calculation was done to determine the necessary required volumes to meet the TS Bases for the BAT and RWST.

As part of the problem resolution, the design bases requirements for the BAT and RWST volume levels were researched and reconstructed based on the required safety function of the tanks.

2.0 EVALUATION

The licensee proposed to change the current volumes required of the BAT in Modes 1 to 6 (power operation, startup, hot standby, hot shutdown, cold shutdown and refueling) and the RWST in Modes 5 and 6 in order to account for the unusable volume due to discharge line location and other physical characteristics associated with the tanks. The volume required for RWST in Modes 1 to 4 will not change as the existing level provides the maximum available volume to account for shutdown margin, worst case single failure, adequate containment sump volume for transfer to sump recirculation, and sufficient volume above the switchover initiation level such that no operator action is required prior to ten minutes after the initiation of the accident.

The design bases requirements for BAT and RWST were researched and reconstructed based on the required safety function of the tanks. The BAT is designed to store sufficient boric acid for a cold shutdown from full power operation immediately following refueling with the most reactive control rod not inserted, plus operating margins (Final Safety Analysis Report (FSAR) Section 9.3.4).

Additionally, conditions at cold shutdown require the reactor to be shutdown by at least 1.0 percent delta k/k (FSAR Section 15.4). The RWST is required to provide a source of borated water at refueling water boron concentration for use during refueling or a postulated loss-of-coolant accident (LOCA). The RWST must contain enough inventory to bring the reactor to safe shutdown through all six modes of operation (FSAR Section 9.2.7). The design bases volumes for these tanks account for tank specific characteristics.

The existing tank volumes required by the TSs for the BAT and RWST do not meet the design bases and are not conservative because they do not account for unusable tank volumes. The proposed changes to the TSs will meet the design bases requirements and correct the volumes required for BAT and RWST to account for unusable tank volumes. The changes require that the BAT and the RWST be maintained at levels which will allow them to perform their required safety function. The proposed changes also make the specifications consistent with the supporting analyses and Bases.

Based on its review, the NRC staff concludes that the proposed TS revision for Catawba Units 1 and 2 has no adverse impact on safety and does not pose an undue risk to public health and safety and is, therefore, acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The 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. 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 these amendments.

4.0 CONCLUSION

The Commission's proposed determination that the amendments involve no significant hazards consideration was published in the Federal Register (55 FR 34366) on August 22, 1990. The Commission has consulted with the State of South Carolina. No public comments were received, and the State of South Carolina 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 issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: K. Jabbour, PDII-3/DRP-I/II
A. Massey, SRXB/DST

Dated: November 30, 1990

DATED: November 30, 1990

AMENDMENT NO. 82 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

DISTRIBUTION:

Docket File	
NRC PDR	
Local PDR	
PD II-3 R/F	
Catawba R/F	
S. Varga	14-E-4
G. Lainas	14-H-3
D. Matthews	9-H-3
R. Ingram	9-H-3
K. Jabbour	9-H-3
OGC-WF	15-B-18
D. Hagan	MNBB 4702
E. Jordan	MNBB-3701
G. Hill (8)	P1-37
W. Jones	MNBB 7103
J. Calvo	11-F-22
ACRS (10)	P-135
GPA/PA	17-F-2
OC/LFMB	MNBB 4702