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February 3, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

Section 3.9.3.2 of the Catawba Safety Evaluation Report discusses License Condition 3, Relief and Safety Valve Testing. Therein the Staff requested plant-specific information concerning the operability of the Catawba pressurizer safety valves, power operated relief valves (PORVs) and PORV block valves. My letter of October 26, 1983 provided the requested information with the exception of the inlet and discharge piping. This information is attached.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

ROS/ibh

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commisssion
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

NRC Resident Inspector
Catawba Nuclear Station

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cc: Mr. Jesse L. Riley
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Charlotte, North Carolina 28207

CATAWBA NUCLEAR STATION

NUREG-0737, Item II.D.1

The EPRI tests that both the inlet and discharge pipe design could have an effect on safety valve operability. Selection of the Catawba safety valve ring settings considered both inlet and outlet effects.

For the inlet pipe, acoustic wave phenomena with long inlets provided the major concern. The Catawba inlet pipes are relatively short and compare favorably to the short inlet pipes EPRI used with both the Dresser 31739A and 31709NA safety valves. The Catawba inlet is also a non-water loop seal design. In determining Catawba ring settings from the correlation analysis, ring settings that were tested successfully with long inlets were used as a basis. This approach provided additional conservatism for the Catawba valves.

For the discharge pipe, built-up back pressure imposed on the valve was the major concern. The maximum back pressure was calculated for the Catawba discharge pipe. This back pressure was then directly used in the correlation analysis curves, which consider back pressure effects, to select the most appropriate ring settings for those conditions. Mechanical loading of the valve from flow in the discharge line was also considered in the piping analysis, and found to be acceptable.

Test piping for Power Operated Relief Valve and PORV block valve testing was sufficiently similar to model actual Catawba flow conditions. Any effect on the valves due to flow differences between tested and installed conditions will be negligible. Mechanical loading due to flow in the discharge lines has also been considered for PORV and PORV block valves and was found acceptable.