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May 4, 1984

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

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

Re: Catawba Nuclear Station, Unit 1
Docket No. 50-413
Proof and Review Technical Specifications

Dear Mr. Denton:

During an inspection conducted by NRC - Region II inspectors of the Catawba Proof and Review Technical Specifications, a comment was generated concerning the completeness of Technical Specification Table 3.4-1, "Reactor Coolant System Pressure Isolation Valves." The comment stated that Residual Heat Removal isolation valves 1ND1B, 1ND2A, 1ND36B and 1ND37A should be added to the table.

These isolation valves should not be included in Table 3.4-1 because the combination of design features at Catawba is such that no significant reduction of the intersystem LOCA probability would result from such testing. This issue was discussed at some length with your staff during their review of the Catawba FSAR and we considered the issue to be closed.

The intent of Technical Specification 3/4.4.6 is to require testing of pressure boundary isolation valves, as appropriate, to assure a low probability of gross valve failure and a consequent intersystem LOCA (ref. Bases 3/4.4.6.2). Valves included in Table 3.4-1 are tested to reduce the total probability to an acceptable level.

Failure mechanisms of interest include inadvertent opening (operator error), valve leakage and valve rupture. The valve configurations included in Table 3.4-1 exhibit much higher, though still low, probabilities of failure due to the sum of all applicable failure mechanisms. Therefore, they control the overall probability of an intersystem LOCA. The Residual Heat Removal hot leg isolation valves contribute a relatively insignificant amount to the overall risk, as follows.

Catawba's Residual Heat Removal hot leg isolation valves are series pairs of electric motor operated gate valves. They are electrically interlocked to prevent opening at Reactor Coolant System pressures above approximately 385 psig and to automatically close at approximately 600 psig. Any small leakage through these valves may be relieved to the pressurizer relief tank via the Residual Heat Removal suction line relief valves. Each relief valve has a capacity of 900 gpm at the set pressure of 450 psig. Therefore, inadvertent

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opening (operator error) and valve leakage are eliminated as failure mechanisms which would lead to an intersystem LOCA.

The remaining failure mechanism, rupture of both valves in series to the Residual Heat Removal pump suction, is highly improbable, particularly in comparison to the valve configurations represented in Table 3.4-1. Testing should not be required for this failure mechanism because of its small contribution to the total risk of an intersystem LOCA.

Very truly yours,

Hal B. Tucker

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cc: Mr. James P. O'Reilly, Regional Administrator
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