

# DUKE POWER COMPANY

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NUCLEAR PRODUCTION

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November 30, 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:

The following information is provided to assist the Staff in the Fire Protection review of the Catawba Nuclear Station.

## Cold Shutdown

Analysis confirms that cold shutdown can be achieved within 72 hours following the subject event, under guidelines established by the Standard Review Plan, Section 9.5-1.C.5.C. Damage Control Procedures and Operations Procedures have been developed to support this capability.

## T-Hot Indication in the SSF

A concern has been raised that the instrumentation provided to the operator in the SSF should include indications of the Reactor Coolant System hot leg temperatures. These indications were determined to be unnecessary based on the following technical arguments.

The SSF instrumentation includes indications of the core exit fluid temperature as measured by the core exit thermocouples. These thermocouples essentially provide an early indication of the hot leg fluid temperature. Core exit thermocouples also provide the most direct and prompt indication of the status of core decay heat removal. Thermocouple performance has been proven during operation at the McGuire Nuclear Station, a sister plant to Catawba.

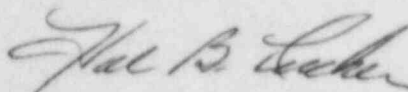
Should control and operation of the unit from the SSF be required, the reactor coolant pumps would not be in operation and core cooling would be via natural circulation. The relatively low flow rates and long transport times of natural circulation cause the hot leg temperature to lag the core exit temperature. For this reason, the core exit thermocouples are used as the best indication of core cooling. Core exit thermocouple usage is extensive in both the Safety Parameter Display System (SPDS) and the station emergency procedures. Hot leg temperatures are not required to successfully control and operate the unit from the SSF.

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Very truly yours,



Hal B. Tucker

ROS:slb

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