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Docket Nos: 50-413
and 50-414

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Request for Additional Information - Catawba Nuclear Station

In the performance of the Catawba Station licensing review, the NRC staff has identified the need for additional information in the Instrumentation and Control Systems area (Enclosure). This request for additional information pertains to concerns that were previously discussed with your staff at several meetings. We request that you provide the information herein requested no later than January 17, 1983. If you require any clarification of this matter, please contact the project manager, Kahtan Jabbour, at (301) 492-7821.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Elinor G. Adensam
Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosure:
As stated

cc: See next page

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A PDR

OFFICE	DL:LB #4	LA:DL:LB#4	DL:LB #4				
SURNAME	KJabbour	MDuncan	EAdensam				
DATE	12/30/82	12/30/82	12/30/82				

CATAWBA

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REQUEST FOR ADDITIONAL INFORMATIONINSTRUMENTATION AND CONTROL CONCERNS
FOR CATAWBA

1. In our latest discussions with the applicant, it was indicated that the miniflow valves (ND 25A and 59B) for the RHR pumps have uniquely configured control switches. Both switches have a momentary "OPEN" position which, when pressed, open the corresponding valve. The switches, when in their maintained "AUTO" positions, permit the individual valves to close on either a high pump discharge flow or a RHR pump not running signal from their associated pumps. Additionally, in the "AUTO" position, the individual valves open on a low pump discharge flow and pump running signal from their associated pumps. The unique feature of these switches is the release bar which, when pressed, takes the switch out of "AUTO" but does not place the switch in "OPEN". In this neutral position, the miniflow valves cannot change positions until their switch is placed either in the "AUTO" or "OPEN" position.

CONCERN:

The staff is concerned that if the control switches are left in the neutral position, the miniflow valves will not respond to an automatic open signal required for RHR pump protection. This would appear to be a means by which both pumps could be damaged on a SI, if the minimum flow protection is not in the automatic mode. Provide a discussion on how this issue will be resolved for Catawba.

2. In recent discussions with the applicant, it was indicated that if the safety injection reset timer or the diesel sequencer fail, manual reset of the sequencer may be prevented or the sequence may not be completed. Under these conditions

the operator is prevented from possibly manually initiating ESF loads or manually tripping ESF loads unless he removes power from the sequencer in order to regain manual control or takes action to control individual loads at the switchgear.

CONCERN:

The staff is concerned that under accident conditions, as well as inadvertent initiation of load sequence programs, the inability of the operator to exercise manual control could lead to consequential damage of safety related equipment or prevent initiation of protection systems. As an example, the RHR pumps are protected by miniflow bypass valves which open following a pump start. If one of these valves fails to open, the operator cannot turn the associated pump off in the event of a sequencer failure without opening breakers or removing fuses. Similarly, the same situation can occur for the NSW pumps which are protected from loss of suction by transfer of intake from Lake Wylie to the SNSWP. While it is recognized that conditions which could lead to equipment damage would require more than a single failure, the types of multiple failures required are not limited to those associated with independent, redundant trains of protection equipment. Thus, it is concluded that the fault tolerance of the system design and specifically the potential for the operator to be incapable of exercising manual control introduces a safety significant issue.

Therefore, provide your rationale that the design is acceptable in light of these concerns and/or any specific actions which will be taken to address these concerns.

3. One of our previous concerns pertained to the loss of both trains of RHR due to a single instrument bus failure. In our past discussions, the applicant has stated that the operator is informed that he has lost RHR by low flow alarms, that there is enough time to manually re-establish RHR, and that the operator knows what action to take under these circumstances. Additionally, miniflow valves are provided to prevent pump damage.

CONCERN:

The staff is still concerned that the loss of both trains of RHR during decay heat removal is a safety significant issue. Therefore, a written response should be provided to document the applicant's position that this is not a safety problem, to discuss the importance of time in re-establishing RHR, and to discuss what (training, procedures, etc.) specifically tells the operator how to respond to this situation.

4. Logic diagrams for the auxiliary feedwater pump suction alignment to the NSW system are shown in FSAR Figures 7.4.1.1 and 7.4.1.2. The logic is complex, containing multiple coincidence logic and several time delays.

CONCERN:

The staff is concerned about the testability of the alignment logic during power operation. Provide a discussion describing how this circuitry will be tested at power.