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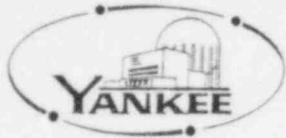
Telephone 617 366-9011

TWX
710-390-0739

YANKEE ATOMIC ELECTRIC COMPANY

B.3.2.1

WYR 79-63



20 Turnpike Road Westborough, Massachusetts 01581

May 24, 1979

United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Attention: Boyce H. Grier, Director

Reference: (a) License No. DPR-3 (Docket No. 50-29)
(b) Letter YAEC to USNRC dated April 26, 1979;
Response to I & E Bulletin No. 79-06a

Dear Sir:

Subject: Additional Information to Support Responses to I & E Bulletin No. 79-06a

During recent discussions with members of your staff at our Yankee Rowe site, they indicated that more information was needed for review of our response to I & E Bulletin No. 79-06a (ref. 6). Specifically the request was made that Yankee expand on statements relative to Items 7.b.(2) and 7.c.

Item 7.b.(2)

Current operating procedures at Yankee Rowe give the operator very definitive instructions concerning ECCS termination following actuation due to a low pressure condition. We believe that having temperatures in the Reactor Coolant System in the subcooled region is a necessity but that other criteria must also be utilized when terminating ECCS. Specifically, at Yankee Rowe, the operator must meet four criteria before considering any ECCS outback or termination. These are:

- a) Main Coolant Pressure > 200 psi overpressure as calculated from Incore Thermocouples
- b) Main Coolant Pressure stable or increasing
- c) Incore Thermocouples must be stable or decreasing
- d) At least two steam generators exhibit secondary water level with ability to supply feed water. (With the exception of certain Main Steam Line Break incidents)

We believe the use of overpressure in lieu of subcooling is a more direct application for the operator of the same basic concept. The use of 200 psi over saturation has been analyzed to be adequate to prevent severe void formation and would result in system conditions which would permit the natural circulation mode of cooling. The three other criteria are based on our own analysis of the transients involved and also by recommendations from our vendor, Westinghouse.

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With regard to the 20 minute criteria, Yankee feels that no specific timing can be assigned to transients or accidents. Termination of Safety Injection should occur only when the plant is in a stable condition. This must be determined from plant parameters and variables and not external factors such as time. Yankee has evaluated the various transient and accident scenarios and we have determined that in all cases the Safety Injection System will run in excess of 20 minutes. We feel that to place any time constraints on the operation of the Safety Injection System does not enhance its operation and that having the operator think in these terms is meaningless during accident conditions. Our procedures, therefore, will continue to instruct the operator that any decisions regarding ECCS cutback or termination must be made as a result of direct evaluations of primary plant parameters.

Item 7.c.

Yankee maintains the position, supported by our vendor, Westinghouse, that termination of the Main Coolant System pumped flow represents a safe and acceptable method of operation following an accident. We strongly disagree that pumped flow, full or partial, should be a required mode of operation for providing adequate post-accident core cooling.

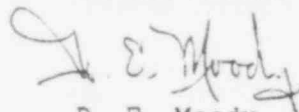
Current procedures instruct the operator to leave the Main Coolant Pumps in operation unless cavitation occurs. This would be evidenced by low or unstable pump amperage readings or low or fluctuating pump flows. The Main Coolant Pumps at Yankee Rowe are of the canned motor type and during normal operation reactor coolant is present in the pump bearings for both cooling and lubrication. Under some accident conditions, when two phase flow is present, it is uncertain whether these bearings would function in the environment. Under these conditions (bearing failure) pump integrity may be affected and at best the pump would be rendered inoperable for use during the later stages of an accident if needed.

It continues to be our position, stated in the Emergency Operating Procedures, that in certain accident conditions Main Coolant Pump operation is desirable, however; it should in no way be considered to be a required mode of operation to ensure plant safety.

We trust that this information is satisfactory; however, should you have any further questions please contact Mr. J. K. Thayer of this office.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



D. E. Moody
Manager of Operations

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