REQUEST FOR ADDITIONAL INFORMATION

PWR MAIN STEAM LINE BREAK WITH CONTINUED FEEDWATER ADDITION

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT UNIT 1

NRC DOCKET NO. 50-327

NRC TAC NO. 46857

NRC CONTRACT NO. NRC-03-81-130

FRC PROJECT C5506

FRC ASSIGNMENT 5

FRC TASK 121

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BACKGROUND

Evaluation of the information contained in the June 16, 1980 [1] letter from Tennessee Valley Authority (TVA) to the U.S. Nuclear Regulatory Commission (NRC) relating to IE Bulletin 80-04, "Analysis of a PWR Main Steam Line Break with Continued Feedwater Addition," revealed an item of concern. Additional information relating to this concern is needed before a final evaluation can be made regarding the potential for exceeding containment design pressure or worsening of reactor return-to-power response.

This concern and the additional information needed to resolve this concern are identified in this Request for Additional Information.

Supplemental information now held by FRC relating to this matter is noted in the bibliography included in this report.

ITEM

CONCERN

IE Bulletin 80-04 directs the Licensee to review containment pressure response to a main steam line break (MSLB) accident to determine the impact of runout flow from the auxiliary feedwater (AFW) system and other energy sources. TVA's response concerning the MSLB analysis for the Sequoyah Nuclear Plant Unit 1 indicated that manual isolation of the AFW system was assumed to occur by operator action 10 minutes after the initiation of the accident.

TVA's response is not sufficient to allow FRC to complete the evaluation of the potential for exceeding containment design pressure. The analysis takes credit for operator action to identify the affected steam generator and isolate AFW flow to that generator within 10 minutes of the start of the accident. In the light of studies performed on operator response to stressful situations, this time may be unrealistic.

REQUEST

In the Sequoyah Final Safety Analysis Report [2], the response to Question 6.56B states that the AFW system is manually realigned by the operator after 10 minutes. In order to aid in the completion of our review, please provide the following information concerning your analysis of containment pressure response to a MSLB with continued feedwater addition:

1. Provide the actions required to be performed by the operator to prevent exceeding containment design pressure, and provide justification for the time at which credit is taken for operator action.

2. Provide the time after the start of a MSLB when containment design pressure will be exceeded if no operator action is taken to terminate the accident. Provide the magnitude of the peak pressure and the time at which the peak occurs.

   Note: A statement that operator action is performed within 10 minutes of the start of an accident because this is the licensing basis for plant will not be considered responsive to this request for justification.

REFERENCES

1. L. M. Mills (TVA)
   Letter to J. P. O'Reilly (NRC)
   Subject: IE Bulletin 80-04
   June 16, 1980

2. Final Safety Analysis Report
   Sequoyah Nuclear Plant
   Section Q6.56B

BIBLIOGRAPHY

1. Sections 6.2.1.3.11, 15.4.2.1
   Final Safety Analysis Report
   Sequoyah Nuclear Plant

2. Final Safety Analysis Report
   Watts-Bar Nuclear Plant
   Section 6.2.1.3.10