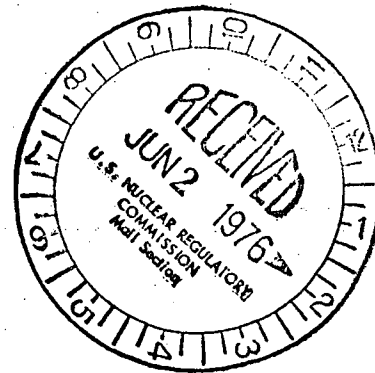




830 Power Building  
TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE 37401

JUN 1 1978

Regulatory Docket File



Mr. Benard C. Rusche, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

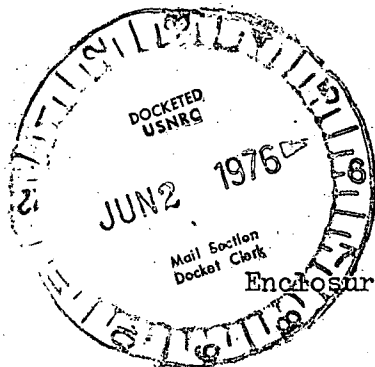
Dear Mr. Rusche:

In the Matter of the Application of ) Docket Nos. 50-327  
Tennessee Valley Authority ) 50-328  
50-390  
50-391

Submitted herewith is Revision 3 to TVA report No. 72-22,  
"Evaluation of the Effects of Postulated Pipe Failures  
Outside of Containment for the Sequoyah Nuclear Plant, Units  
1 and 2." This revision changes the schedule for plant  
modifications.

Very truly yours,

J. E. Gilleland  
Assistant Manager of Power



Enclosure (40)

5537

TENNESSEE VALLEY AUTHORITY  
DIVISION OF ENGINEERING DESIGN

EVALUATION OF THE EFFECTS OF POSTULATED  
PIPE FAILURES OUTSIDE OF CONTAINMENT  
FOR SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2  
72-22

	Revision R0	R1	R2
	Date 5/10/74	11/27/74	9/19/75
Contractor	Randy Roman	L. Q. Randall	R. E. Koppe
Sponsor Engineer		B. B. Neely	B. B. Neely
Reviewed by	W. A. English	W. A. English	W. A. English
Recommended	W. A. English	W. A. English	W. A. English
Project Manager	R. M. Pierce	R. M. Pierce	R. M. Pierce
Approved	R. S. Roman	R. S. Roman	R. S. Roman

Thermal Power Engineering Branches

Civil

Electrical

Mechanical

R0	WLS	R0	WLS	R0	WLS
R1	WLS	R1	WLS	R1	WLS
R2	WLS	R2	WLS	R2	WLS

Thermal Power Engineering Design Projects

Civil

Electrical

Mechanical

Plant Additions

R0	WLS	R0	WLS	R0	WLS	R0	WLS
R1	WLS	R1	WLS	R1	WLS	R1	WLS
R2	WLS	R2	WLS	R2	WLS	R2	WLS

TENNESSEE VALLEY AUTHORITY  
DIVISION OF ENGINEERING DESIGN

EVALUATION OF THE EFFECTS OF POSTULATED  
PIPE FAILURES OUTSIDE OF CONTAINMENT  
FOR SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2  
72-22

	R3		
	Date 5/5/76		
Contractor			
Sponsor Engineer	B B Nedy		
Reviewed by	PA English		
Recommended	WA English		
Project Manager	ED [signature]		
Approved	R. G. [signature]		

Thermal Power Engineering Branches

Civil		Electrical		Mechanical	
R3	LAB	R3	JLM, ZWC/s	R3	JLM, RDC

Thermal Power Engineering Design Projects

Civil		Electrical		Mechanical		Plant Additions	
R3	PNT	R3	WAA	R3	RKC	R3	



Postulated Pipe Failures Title: Outside Containment		Sequoyah Nuclear Plant Units 1 and 2	REVISION LOG
Revision No.	DESCRIPTION OF REVISION	Date Approved	
R1	General revision - Revised report to incorporate evaluation of all systems (excluding field routing systems) possessing the the potential for affecting cold shutdown of the plant.	11/1/74	
R2	General revision - Revised report to incorporate evaluation changes resulting from the main steam and feedwater rerouting, other plant modifications, and design differences between Unit 1 and Unit 2.	9/15/75	
R3	Revision of section 6.5 - Revised section to change the schedule for incorporation modifications.	5/5/76	

#### 6.4 Field Evaluation Effort

In addition to the evaluation whose results have been reported in sections 6-1 through 6-3 a field evaluation will be performed to determine unacceptable consequences of piping ruptures for the additional piping systems listed in section 3-3.

Rev 1

These systems include small piping, field routed piping and piping systems currently under revision. The sizes and pressures of these piping systems are such that their only potential for damage is through water spray on essential electrical equipment. If such potential is found during the field evaluation, barriers will be installed to divert water spray from sensitive equipment.

Rev 2

Due to the separation of essential conduit from high energy lines, the only potential for unacceptable damage to conduit occurs where essential conduit passes in close proximity to high pressure low energy lines. The determination of whether damage can occur will be based on a field survey to determine the exact "as built" relationship between the piping and conduit. Corrective action will be taken where required.

Rev 1

#### 6.5 Schedule for Incorporating Modifications

Based upon the evaluation of postulated piping failures discussed above, certain modifications will need to be accomplished. All modifications required to prevent unacceptable events associated with each postulated break in the main steam, feedwater, and RHR lines and the steam supply line to the auxiliary feedwater turbine outside containment will be incorporated before the respective unit attains the 1 percent power level.

Rev 3

will assure that any adverse environments caused by critical cracks are detected in a timely manner and corrective action is initiated. TVA concludes that incorporation of all modifications other than those to main steam, feedwater, and RHR lines and the auxiliary feedwater turbine steam supply line before 50 percent power presents no undue risk to plant safety.

Rev 3