

Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379-2000

R.J. Adney  
Site Vice President  
Sequoyah Nuclear Plant

December 19, 1996

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

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

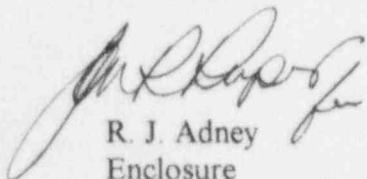
SEQUOYAH NUCLEAR PLANT (SQN) - NRC INSPECTION REPORT NOS. 50-327,  
328/96-11 - REPLY TO NOTICE OF VIOLATIONS (NOVs) 50-327, 328/96-11

Enclosed is TVA's reply to Mark S. Lesser's letter to Oliver D. Kingsley, Jr., dated November 19, 1996, which transmitted the subject NOVs. The violations are associated with the failure to follow procedure during an excavation activity and an error in establishing design pressure for the diesel generator starting air system.

The enclosure contains TVA's response to the NOV.

If you have questions regarding this response, please telephone R. H. Shell at (423) 843-7170.

Sincerely,



R. J. Adney  
Enclosure  
cc: See page 2

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ENCLOSURE  
RESPONSE TO NRC NOTICE OF VIOLATION 50-327, 328/96-11  
INSPECTION REPORT NOS. 50-327, 328/96-11  
MARK S. LESSER'S LETTER TO OLIVER D. KINGSLEY, JR.  
DATED NOVEMBER 19, 1996

VIOLATION 50-327, 328/96-11-03

"Technical Specification 6.8.1 requires, in part, that procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, "Quality Assurance Program Requirements (Operations)." Appendix A of Regulatory Guide 1.33, Section 9, includes procedures for maintenance activities that can affect the performance of safety related equipment, which includes performance of activities in accordance to documented instructions.

Site Standard Practice (SSP)-7.4, Work Permits, Revision 7, requires, in part, that Site Engineering shall be notified by the cognizant engineer prior to any excavations within 10 feet of Category 1 structures in order that an Excavation Permit can be evaluated and issued. Excavation Permit No. 94-09292-00 required temporary missile protection if the excavation was within 6 feet from the edge of the Essential Raw Cooling Water system permanent missile protection.

Contrary to the above, on October 4, 1996, Site Engineering was not notified prior to excavation less than 6 feet from Essential Raw Cooling Water piping and temporary missile protection was not installed.

This is a Severity Level IV Violation (Supplement I)"

REASON FOR THE VIOLATION

The root cause of the failure to provide temporary missile protection was determined to be failure to follow the work order. The fire protection piping excavation was necessary to support repair work on a fire hydrant. The underground fire protection piping is typical bell and spigot construction. The design depends on the soil with concrete thrust-blocks that in combination maintain the position of the pipe and therefore maintain the integrity of the fire protection piping and valves. The excavation permit contained a requirement to provide temporary missile shielding if the excavation was 6 feet or less from the edge of the permanent missile shielding for ERCW piping located nearby. The hole was excavated and during an attempt to free the hydrant, the isolation valve located immediately below the hydrant slipped off of the supply pipe which caused a large water spray in the area. The focus then shifted from repair of the hydrant to efforts to isolate the water. After the leak was isolated personnel determined that the work could not be completed within the shift. The supervisor in the field decided to secure the excavated area and install barricades and lights as required. Temporary shielding was not placed as required. The package review at the end of the shift by supervision failed to identify the requirement for temporary missile protection to be in place.

### CORRECTIVE ACTIONS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

Appropriate disciplinary actions have been taken with the responsible personnel.

A stand down meeting was conducted to communicate this event to the appropriate maintenance personnel and to stress the importance of understanding infrequently performed procedures referenced in work packages and the importance of following the work package or procedure. In this case this was an infrequently performed procedure because fire hydrant repair work infrequently involves missile protection.

This event has been added to the block training for maintenance for industry events.

### CORRECTIVE ACTIONS THAT WILL BE TAKEN TO AVOID FUTURE VIOLATIONS

Corrective actions to avoid future violations are complete as stated above.

### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The completed corrective actions stated above bring TVA into full compliance with respect to this example.

### COMMITMENTS

None.

### VIOLATION 50-327, 328/96-11-04

"Technical Specification 4.0.5 requires that inservice inspection of ASME Code Class 1, 2 and 3 components and inservice testing of ASME Code class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

FSAR Table 3.2.1-2 identifies ASME Section VIII as the design criteria for auxiliary air system receivers.

The 1986 Edition of the ASME Pressure vessel Code, Section VIII, Subsection UG-125 (c), states that all pressure vessels shall be protected by a pressure-relieving device that shall prevent pressure from rising more than 10% above the maximum allowable working pressure (operating condition) of the system.

Contrary to the above, on September 16, 1996, Section XI inservice testing procedures for the emergency diesel generator starting air receiver pressure relieving devices were inadequate in that setpoints were set in the range of 340-360 psig which was more than 10% above the maximum allowable working pressure of 300 psig.

This is a Severity Level IV Violation (Supplement 1)."

#### REASON FOR THE VIOLATION

TVA agrees that a violation of Section VIII of the ASME Pressure Vessel Code has occurred.

However, TVA does not agree that this is a violation of Section XI of the ASME Pressure Vessel Code, nor a violation of Technical Specification 4.0.5. These requirements are incorrectly referenced as the subject relief valves are not a part of Section XI. Also note that the reference to FSAR Table 3.2.1-2 is incorrect in that auxiliary air receivers are not part of the diesel generator starting air system.

The problem with the design pressure is believed to have occurred during the initial design of the system. The Original Equipment Manufacturer (OEM) drawings submitted to TVA during the initial design indicated a system working pressure of 300 psig. It appears that this was incorrectly assumed to be the design pressure. The vendor equipment was supplied at a design pressure of 350 psig and a working pressure of 300 psig which is consistent with the requirements of Section III and Section VIII of the ASME code. The vendor supplied relief valves were supplied at a specified pressure of 350 psig. The misunderstanding in nomenclature appears to have resulted in the system design pressure being incorrectly specified as 300 psig versus 350 psig.

In 1988 during a system adequacy review this design discrepancy was identified and a calculation was generated that verified the piping was qualified for a design pressure of 350 psig. However, this calculation did not address components and did not revise the drawing to reflect the higher design pressure.

#### CORRECTIVE ACTIONS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

An operability evaluation of the piping and components was performed to support continued operation and concluded that the diesel generator starting air system is operable.

#### CORRECTIVE ACTIONS THAT WILL BE TAKEN TO AVOID FUTURE VIOLATIONS

Since 1988, controls for the design of pressurized piping systems have been strengthened. Piping system design is performed to established design standards and is subjected to a series of integrated design reviews which ensure the proper specification of design pressures and overpressurization protection setpoints.

A review of safety-related systems will be performed to ensure that relief valve set pressures are consistent with the code of record for the associated system design pressures. Problems identified through this review will be documented and corrected using the corrective action process. This review will be complete on or before January 15, 1997.

A design pressure and temperature calculation for the diesel generator starting air system will be prepared to compare the design pressure and temperature of the individual components to the system design pressure and temperature for adequacy. The calculation will establish the system relief valve set pressure. This calculation will be complete on or before February 14, 1997.

A design change notice (DCN) will be issued to correct drawings to agree with the conclusions of the calculation. This DCN will be issued on or before February 14, 1997.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved upon completion of the corrective actions stated above and will be complete on or before February 14, 1997.

#### COMMITMENTS

- 1) A review of safety-related systems will be performed to ensure that relief valve set pressures are consistent with the code of record for the associated system design pressures. Problems identified through this review will be documented and corrected using the corrective action process. This review will be complete on or before January 15, 1997.
- 2) A design pressure and temperature calculation for the diesel generator starting air system will be prepared to compare the design pressure and temperature of the individual components to the system design pressure and temperature for adequacy. The calculation will establish the system relief valve set pressure. This calculation will be complete on or before February 14, 1997.
- 3) A DCN will be issued to correct drawings to agree with the conclusions of the calculation. This DCN will be issued on or before February 14, 1997.

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December 19, 1996

cc (Enclosure):

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