



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

September 14, 1994

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,
328/94-18 - REPLY TO A NOTICE OF VIOLATION (NOV)

Enclosed is TVA's reply to Mark S. Lesser's letter to Oliver D. Kingsley, Jr., dated August 16, 1994, which transmitted the subject NOV. This NOV pertains to three violations. The first violation is associated with the failure to follow procedures during the implementation of a clearance. The second violation involves the failure to take action to preclude a repeat condition with the administrative control of a valve. The third violation addresses the lack of adequate procedures and/or processes to ensure adequate implementation of a modification.

Enclosure 1 of this letter is TVA's reply to the NOV. Enclosure 2 further addresses two specific concerns identified in the NRC letter.

If you have any questions concerning this submittal, please telephone R. H. Shell at (615) 843-7170.

Sincerely,

O. J. Zeringue
Acting Site Vice President

Enclosures

cc: See page 2

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ENCLOSURE 1

REPLY TO A NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-327,328/94-18
MARK S. LESSER TO OLIVER D. KINGSLEY, JR.
DATED AUGUST 16, 1994

VIOLATION 327/94-18-02

"Technical Specification Section 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. Appendix A of Regulatory Guide 1.33 includes procedures for equipment control, including methods for obtaining permission and clearance for personnel to work and for logging such work.

"Site Standard Practice (SSP-12.3), EQUIPMENT CLEARANCE PROCEDURE, Revision 7, paragraph 3.2.2 requires placement of the clearance as indicated on the clearance forms.

"Contrary to the above, on July 15, 1994, the licensee failed to follow the required clearance form as described by switching order SQ-94-49 during tagout of a maintenance boundary for Unit 1, resulting in a trip of an operating reactor coolant pump, and subsequent manual trip of the reactor.

"This is a Severity Level IV violation (Supplement I). (Applicable to Unit 1 only)"

Reason for the Violation

The cause for the improper implementation of the clearance procedure was personnel error--failure to self-check. Clearance (dispatch switching order) SQ-94-49 was issued to isolate Unit 1 in preparation for the main generator exciter and voltage regulator maintenance activities. An assistant shift operations supervisor (ASOS) was assigned the responsibility of implementing the switching order. During the implementation of the switching order, the ASOS accessed the wrong 6.9-kilovolt unit board, opened the fuse cabinet, and removed bus potential transformer fuses. The loss of voltage was sensed and resulted in the motor breakers supplied by the board being tripped, including the Loop 4 reactor coolant pump (RCP) motor. The loss of the RCP motor led to a manual trip of the reactor at approximately 25 percent reactor power as required by procedures (the turbine was already removed from service). The switching order required the ASOS to remove the line potential transformer (PT) fuses. In error, the ASOS removed the bus PT fuses. Upon hearing the actuation of various turbine building equipment, the ASOS realized the error, reinstalled the fuses, and notified the main control room of his actions.

Corrective Steps That Have Been Taken and the Results Achieved

The appropriate disciplinary action was taken with the involved individual.

Corrective Steps That Will be Taken to Avoid Further Violations

No additional actions are necessary.

Date When Full Compliance Will be Achieved

With respect to the specific example cited, the corrective action taken has placed TVA in full compliance.

VIOLATION 327,328/94-18-03

"10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that measures be established to assure that conditions adverse to quality such as failures, malfunctions, and nonconformances, are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall ensure that the cause of the condition is determined and corrective action taken to preclude repetition.

"Contrary to the above, corrective actions, completed in March 1992 in accordance with II-S-92-008, failed to preclude repetition, in that, on July 21, 1994, NRC inspectors again identified that Valve O-78-522, Primary Water Makeup Isolation to Spent Fuel Pit, was not locked in accordance with SOI-78-1, Spent Fuel Pit Coolant System, Revision 47.

"This is a Severity Level IV violation (Supplement I)."

Reason for the Violation

The apparent cause for the failure to properly install the valve-locking device is personnel error. A review of the condition could not conclusively identify the individual(s) involved. The condition was identified when an improperly installed locking device was found on a manually operated valve (O-78-522) by a resident NRC inspector. The locking device was required to be installed on this valve as an administrative barrier to provide additional assurance that the component would not be inadvertently operated. The valve was determined to be in the correct position (closed) at the time when the locking device was found improperly installed. A document review indicated that the valve was last used for resin sluicing. Operations personnel involved with that evolution were interviewed, and it was determined that the operators were knowledgeable on configuration control and locking-device installation requirements. These individuals stated that the valve-locking device was properly installed upon completion of the evolution. No additional documentation was identified that supported valve manipulation for other evolutions. An additional review of the condition indicated that an Operations standing order issued in June 1994 may have inadvertently allowed valve operation without proper configuration control.

Corrective Steps That Have Been Taken and the Results Achieved

An operator was immediately dispatched to properly install the valve-locking device. A random survey was performed to ensure that other valve-locking devices are properly installed. Approximately five percent of the valves with locking devices (63 valves) were checked. No valve-locking device problems were identified with the valves that were accessible; two valves selected were inaccessible and were not checked.

The standing order that was issued in June 1994 was revised to clearly require compliance with the applicable administrative instructions.

Corrective Steps That Will be Taken to Avoid Further Violations

No additional actions are necessary.

Date When Full Compliance Will be Achieved

With respect to the specific example cited, the corrective actions taken have placed TVA in full compliance.

VIOLATION 327/94-18-04

"10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

"Contrary to the above, on July 5, 1994, procedures and/or drawings provided as part of Work Order 94-04237-03 were inadequate to implement design change (DCN) M-10411 on the 2A-A diesel generator electric governor. The WO required several revisions to be successfully completed due to deficiencies in plant drawings, deficiencies in work order development, ineffective walk-down of equipment prior to modification, and post modification testing discrepancies. The inadequacies caused a delay in returning the 2A-A diesel generator to an operable condition beyond the Technical Specification Limiting Condition for Operation 72 hour action statement.

"This is a Severity Level IV violation (Supplement I). (Applicable to Unit 1 only)"

Reason for the Violation

The violation was caused by the inadequate implementation of procedures and processes. The major cause of the condition was inadequate recurrence control for a previous similar event. Minor contributing causes of the condition were design errors and the lack of a questioning attitude by the walkdown participants.

Problems with current transformer (CT) polarity in the load control circuit were identified in 1978 during preoperational testing of the equipment. The load sensor modules supplied with the diesels were reverse acting; direct-acting sensors should have been used. At that time, the deficiency was corrected by switching the CT leads, following discussion with the vendor.

In 1988, during the performance of a surveillance instruction, it was determined that a reverse-acting load sensor was defective, and it was replaced with a forward-acting sensor. The CT leads were reversed, restoring the wiring to the original configuration, and a condition adverse to quality (CAQ) document was initiated to address the condition on the other diesels. Two key actions were initiated by the CAQ, one was to replace the remaining load sensors with the forward-acting type, and the other was to revise the applicable drawings to reflect the configuration resulting from the sensor replacement. The drawings were revised based on the closure of the CAQ action for replacement of the sensors in the action item tracking system. However, instead of replacing the sensors, the CAQ action had been revised to place tags on the components with a reference to the CAQ. As a result, a configuration error was unknowingly introduced. Additionally, during the premodification walkdown, the walkdown participants could have seen a tag on the speed-sensor card referencing the CAQ and evaluated the potential hardware impact to the modification.

The design for the speed-control modification contained an inherent error because of the configuration error. Postmodification testing (PMT) identified other errors to the design. A review of these errors indicated that they were a result of inadequate error-detection practices.

An investigation of the emergency diesel generator speed-control modification identified seven problems that contributed to extension of the allowable outage time to a total outage time of 113 hours.

Corrective Steps That Have Been Taken and the Results Achieved

Immediate actions were taken to resolve the hardware problems that were identified during the modification. Additionally, an independent review of the modification package was performed to identify and correct any other potential design errors to minimize the diesel outage impact. No additional problems were identified with the modification. Modification of the 2B-B diesel for replacement of its speed-control module that was scheduled to start after completion of the 2A-A diesel was rescheduled to the end of the Unit 2 Cycle 6 outage so that lessons learned could be incorporated.

The drawings for the other diesels were revised to correct the configuration error. Also, an extent of condition review was performed to identify other corrective actions that may have been resolved by the use of a tag to identify the CAQ condition, and no other occurrences were identified.

A review of the Electrical Engineering checking and verification process was performed to determine if process changes were needed, and none were identified. Management expectations were communicated to Engineering personnel on the use of closures in the action item tracking system as input to changing design information. The lessons learned from this event regarding attention to detail in checking and the thoroughness of walkdowns were communicated to Electrical Engineering personnel.

Corrective Steps That Will be Taken to Avoid Further Violations

No additional actions are necessary.

Date When Full Compliance Will be Achieved

With respect to the specific example cited, the corrective actions taken have placed TVA in full compliance.

Commitments to NOV

None.

ENCLOSURE 2

REPLY TO A NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-327,328/94-18
MARK S. LESSER TO OLIVER D. KINGSLEY, JR.
DATED AUGUST 16, 1994

The notice of violation letter identified two specific areas of concern:

1. "... failure of operators to apply adequate self-checking processes or techniques when performing routine operations evolutions."
2. "... lack of adequate procedures or processes to assure that Technical Specification requirements are met during pre-planned evolutions."

Response to Issue No. 1

TVA management is concerned about the continuing occurrence of personnel errors. A review of SQN's performance record indicates that a strong human performance policy has not yet become a part of the SQN culture. Changing this culture requires constant management attention for improvement. The SQN management team is building within the organization an atmosphere that accepts nothing less than following site policy to achieve excellent performance. Steps have been taken to reemphasize work standards, including the proper application of self-checking. Management continues to discuss the self-checking technique and to reemphasize the need to take the time to do the job right; to stop if the individual does not understand something; and if something goes wrong, to understand why it went wrong. Reinforcement of the self-check process is continuing through training, supervisory observation, and coaching in the field. Efforts will continue on a day-to-day basis to focus on the proper implementation of activities and on holding individuals accountable for performance.

Response to Issue No. 2

A review of site procedures associated with preplanned evolutions was performed. It was determined that the existing procedures and the associated processes provide adequate guidance to ensure that technical specification (TS) requirements are met during preplanned evolutions. Site Standard Practice 7.1, "Work Control," Appendix B, specifically addresses work evolutions that impact TSs for planned maintenance during plant operation. The procedure describes the requirement for detailed planning, evaluation, and management involvement for voluntary entry into TS limiting condition for operation. Work that is expected to have a duration equal to or greater than 60 percent of the allowable outage time

identified in the TSs is required to receive plant management evaluation for prudence and acceptability. It is recognized that several problems were encountered in the diesel generator speed control work that resulted in the appearance of a lack of adequate procedures or processes for the importance of the work. However, a review of the work indicated that the observed condition was the result of the cumulative effect of unrecognized configuration problems stemming from inadequate corrective actions for a previous problem and several minor errors in the design change package.