



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

Ken Powers
Vice President, Sequoyah Nuclear Plant

May 20, 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) - INSPECTION REPORT NOS. 50-327, 328/94-04 -
REPLY TO NOTICE OF VIOLATION (NOV) EA 94-030

Enclosure 1 contains TVA's response to Stewart D. Ebnetter's letter to Oliver D. Kingsley dated April 20, 1994, which transmitted the subject NOVs. The first violation is associated with an inadequate plant modification. Failure to properly coordinate the modification led to an unexpected cooldown of the Unit 1 volume control tank. The second violation involved the failure to identify and promptly correct a condition that resulted in gas accumulation in the Unit 1 reactor coolant system (RCS).

The concerns you identified in the cover letter to the NOV are also concerns of TVA. TVA recognizes the significance of gas accumulation in the RCS without the knowledge of the SQN personnel. TVA is implementing several program and personnel improvement plans designed to improve site performance. The Operations Improvement Plan is targeting several areas including operator performance, communications, acceptance of expectations, self-assessment, and management support of Operations. Significant progress in the area of Operations has been observed since the plan was implemented. Additional improvements include streamlining the corrective action process to ensure more effective incident investigations and the establishment of a new group of trained incident investigators to ensure the accuracy and completeness of each investigation. These actions, as well as other actions detailed in the Postrestart Plan, will ensure continued improvement at SQN. Further, TVA will continue to review the lessons learned from this event to ensure the knowledge obtained is utilized for further benefit.

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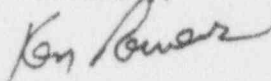
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The event associated with these violations was previously reported as voluntary Licensee Event Report 50-327/94001, dated April 13, 1994. One additional commitment is contained in Enclosure 2.

If you have any questions concerning this submittal, please telephone K. E. Meade at (615) 843-7766.

Sincerely,



Ken Powers

Enclosures

cc (Enclosures):

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ENCLOSURE 1

RESPONSE TO NRC INSPECTION REPORT
NOS. 50-327, 328/94-04
STEWART D. EBNETER'S LETTER TO OLIVER D. KINGSLEY
DATED APRIL 20, 1994

EA 94-030 Violation A

"Technical Specification Section 6.8.1 requires, in part, that procedures shall be established covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A of Regulatory Guide 1.33 includes administrative procedures for conduct of modifications to the facility.

"Procedure SSP-9.3, PLANT MODIFICATIONS AND DESIGN CONTROL, Revision 6, was established, in part, to control the implementation of plant modifications. DCN M09505A and WO 93-09179-00 were written in accordance with SSP-9.3 and governed modifications to and testing of the Unit 1 Component Cooling Water System supply valve to the letdown heat exchanger.

"Contrary to the above, SSP-9.3 was not adequately established to control the implementation of modifications, in that the modification process allowed the Unit 1 Component Cooling Water System supply valve to the letdown heat exchanger to be returned to service prior to completion of the calibration and post modification testing specified in DCN M09505A and WO 93-09179-00. (01014)

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

Reason for the Violation

This violation was caused by a lack of guidance in the governing site procedure. This procedure failed to establish a process that ensured proper management of the modification from start to finish. The subject modification involved adding a solenoid valve to the control circuit of the temperature control valve on the Unit 1 component cooling water system letdown exchanger. The solenoid valve would fully open the temperature control valve in the event of a temperature switch failure.

All physical work associated with the modification was completed on November 12, 1993. Calibration of the temperature switch that sends the signal to the solenoid valve was required to complete the modification. Operations' procedures were revised to support the modification. The Operations procedure that controls the power availability checklist for the solenoid valve was issued on November 23, 1993.

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

Reason for the Violation

This violation was caused by inadequate plant knowledge and questioning attitude concerning both management's evaluation of off-normal plant conditions and the solubility of nitrogen in the RCS.

Unit 1 was being placed in a condition that management believed would be the safest condition while site efforts concentrated on returning Unit 2 to service. Management believed the most conservative condition the unit could be placed in was with the RCS depressurized. However, management failed to fully evaluate the potential consequences of leaving the unit in this condition for an extended period of time.

Plant personnel were not aware that with the RCS depressurized, nitrogen was being transported from the volume control tank to the RCS. This resulted in the reactor vessel water level and the water level in the steam generator (S/G) tubes being reduced. Plant personnel were monitoring two independent channels of pressurizer level as an indication of reactor vessel water level. However, as a result of the slow migration of gas from the VCT to the RCS, pressurizer level changes were negligible. The reactor vessel level indication system was believed to be out of service during this timeframe and, therefore, was not utilized as an indication of reactor vessel water level. The accumulation of gas in the RCS was not recognized by plant personnel until the containment integrated leak-rate test was performed.

Corrective Steps That Have Been Taken and the Results Achieved

Once plant personnel determined that gas had potentially accumulated in the reactor head and the S/G tubes, the reactor head was vented.

The appropriate plant procedures have been revised to address operation of the RCS at atmospheric pressure.

Corrective Steps That Will be Taken to Avoid Further Violations

SN management will review the lessons learned from this event with the appropriate site personnel. Subjects including off-normal plant conditions, nitrogen solubility, depressurized RCS conditions, and the monitoring of plant parameters will be discussed.

The utilization of the level indication system in the reactor vessel in areas other than postaccident and mid-loop conditions will be evaluated.

Date When Full Compliance Will be Achieved

SN is in full compliance with the stated violation. Completion of the above corrective actions will serve as recurrence control for this event.

Investigation has determined that on December 1, 1993, Operations personnel performed the subject power availability checklist. This resulted in the installation of fuses into the solenoid valve. The temperature switch still had not been calibrated at this point. Therefore, when the fuses were installed in the solenoid valve, an erroneously high-temperature signal was sent from the noncalibrated temperature switch to the solenoid valve. The solenoid valve sensing the high-temperature signal became energized, causing the temperature control valve to open fully. This resulted in the temperature of the volume-control tank (VCT) decreasing approximately eight degrees.

Proper management of this modification would have ensured that the appropriate actions were completed in a sequence necessary to prevent this type of error.

Corrective Actions That Have Been Taken and the Results Achieved

Actions were taken to raise the VCT temperature upon discovery of the condition.

The modification to the VCT circuit has been successfully completed.

The plant modification and design control process will be revised to ensure that each modification is properly coordinated and managed. A responsible engineer will manage each modification from start to finish. This will ensure a single point of contact is available to properly coordinate each aspect of the modification process.

Corrective Steps That Will be Taken to Avoid Future Violations

The above actions will serve as recurrence control for this violation.

Date When Full Compliance Will be Achieved

Sequoyah Nuclear Plant (SQN) will be in full compliance with the stated violation once the above corrective action is completed.

EA 94-030 Violation B

"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, during a period of over 100 days between September 6 and December 21, 1993, the licensee failed to identify and correct promptly a significant condition adverse to quality, in that gas voids in the Reactor Coolant System (RCS) were not detected and corrected prior to a significant reduction in RCS water volume. (02014)

ENCLOSURE 2

Commitment

Site Standard Practice 9.3 will be revised by June 17, 1994, to ensure proper coordination and management of each modification.