



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

May 30, 1995

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,  
328/95-08 - REPLY TO NOTICE OF VIOLATIONS (NOVs) 327, 328/95-08-01 AND -02

Enclosed is TVA's reply to Mark S. Lesser's letter to O.D. Kingsley, Jr., dated May 1, 1995, which transmitted the subject NOVs. The first NOV pertains to the failure to perform required surveillances on auxiliary control room source-range monitoring instrumentation as identified by Licensee Event Report (LER) 50-327/95004. Commitments for this NOV were previously noted in the LER. The second NOV identified various implementation problems associated with the spent fuel pit rerack project.

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

Sincerely,

R. J. Adney  
SQN Site Vice President

Enclosure  
cc: See page 2

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U.S. Nuclear Regulatory Commission

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REPLY TO NOTICE OF VIOLATIONS  
NRC INSPECTION REPORT NOS. 50-327, 328/95-08  
MARK S. LESSER'S LETTER TO OLIVER D. KINGSLEY, JR.  
DATED MAY 1, 1995

**Violation 327, 328/95-08-01**

"Technical Specification 4.3.3.5 requires, in part, that each remote shutdown monitoring instrumentation channel including the source range nuclear flux, shall be demonstrated OPERABLE (Channel Check) on a monthly basis. Surveillance Instruction 1/2-SI-OPS-000-003.M, Monthly Shift Log, accomplishes this requirement.

"Contrary to the above, on Unit 1, during January and February 1995, and on Unit 2, from December 1994 to March 1995, the licensee failed to demonstrate the remote shutdown monitoring source range nuclear flux instrumentation channels were operable.

"This is a severity level IV violation (Supplement I)."

Reason for the Violation

The root cause of the violation was inadequate procedure guidance in a surveillance instruction associated with IF/THEN conditions and the use of not applicable (N/A). The procedure governing the use of procedures states that if a step in a procedure contains an IF/THEN condition and the condition is not met, then mark the step as N/A. The surveillance instruction contains an IF/THEN condition that requires comparing the auxiliary control room (ACR) source-range monitor output to the main control room source-range monitor when operating in the source range. Specifically, the procedure stated that **if** the reactor is operating in source-range, **then** compare backup source range to the instruments in the main control room. Since the condition was not met, the step was marked N/A by some of the individuals that performed the surveillance. Also, the performers and reviewers associated with the incorrectly performed surveillance instruction contributed to the condition in that they failed to evaluate the mode of applicability. The mode of applicability has precedence over the IF/THEN condition. For this particular event, the modes of applicability were Modes 1, 2, and 3. Additionally, there was no procedural guidance for the expected response of the auxiliary control room source-range monitors in Mode 1 operation. Previous performances of the surveillance instruction were reviewed for each unit from January 1992 through March 1995. The review identified four Unit 1 and six Unit 2 performances where the ACR source-range monitor data was recorded as N/A.

Corrective Steps That Have Been Taken and the Results Achieved

Upon notification of the condition, Operations personnel verified the condition and determined that the Unit 2 ACR source-range monitor was deenergized. LCO 3.3.3.5 was

entered, and a work request was initiated to correct the problem. The Unit 2 ACR source-range monitor was found to have a failed power supply. The power supply was replaced, and the instrument was returned operable within the technical specification (TS) allowable timeframe. A channel check was performed for the Unit 1 ACR source range monitor, and the monitor was determined to be operable.

A standing order was issued to Operations personnel informing them of the incident and directing them to not N/A steps when the equipment is required to be operable in the applicable mode of operation, to closely evaluate any surveillance data to be N/A'd, and to not generically N/A the data column. Both the Units 1 and 2 surveillance instructions were revised to provide the proper guidance to ensure compliance to the TS requirements.

#### Corrective Steps That will be Taken to Avoid Further Violations

A review of selected surveillance instructions containing IF/THEN performance notes has been accomplished to determine if those notes contain information that could result in the incorrect performance of a step. No other IF/THEN performance notes were identified that would cause the step to be incorrectly performed. This action is contained in Licensee Event Report (LER) 50-327/95004 as a commitment.

#### Date When Full Compliance will be Achieved

TVA is in full compliance based on the corrective actions taken relative to the identified violation.

#### **Violation 327, 328/95-08-02**

"10 CFR 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 and shall be accomplished in accordance with these instructions, procedures, or drawings.

1. Site Standard Procedure (sic) SSP-2.51, RULES OF PROCEDURE USE, Revision 4, requires that while using a procedure or work document, if an unexpected condition exists, the SOS/ASOS or Cognizant Supervisor is to evaluate the situation and document the review and approval to continue in a NOTE.
2. Procedure SSP-2.51, RULES OF PROCEDURE USE, Revision 4, Section 3, requires, in part, personnel involved in procedure or work document performance must review and understand the Precautions and Limitations of the procedure or work document before starting. This review is accomplished by a pre-evolution briefing or by individual review. In addition, SSP-2.51, Section 3 requires prerequisite actions to be satisfied before continuing with the procedure. Fuel shuffling accomplished in

accordance with Fuel Handling Procedure FHI-3, MOVEMENT OF FUEL, Revision 27, requires verification of Precautions and Limitations and prerequisite actions prior to fuel shuffling commencing.

3. Work Order 94-01658-00, was issued to provide coordinating instructions for replacement of the existing spent fuel racks with new high-density spent fuel racks, and required the spent fuel pool demineralizer to be in operation throughout the rerack project.

"Contrary to the above:

1. On February 2, and February 14, 1995, during the implementation of the Spent Fuel Pit Rerack Project, NOTES documenting the evaluation of unexpected conditions and the approval to continue work after an unexpected condition occurred were not accomplished.
2. For the time frame of November 15, 1994, through February 7, 1995; and for the time frame of February 9, 1995, through February 18, 1995, documentation of completion of prerequisites was not accomplished.
3. On March 23, 1995, work order 94-01658-00 was inadequate in that it incorrectly allowed for blocking both spent fuel pool radiation monitors and was not followed in that the spent fuel pool demineralizer was not in operation throughout the rerack project.
4. On February 2, 1995, drawing 91934-7355A was not appropriate to the circumstances in that it was in error with respect to the spent fuel pool bridge crane maximum high hook lift elevation resulting in a dummy fuel assembly not clearing the spent fuel storage rack prior to movement.

"This is a severity level IV violation (Supplement I)."

#### Reason for the Violation

The overall root cause of the violation for the multiple problems associated with the spent fuel pit rerack project was insufficient understanding of and commitment to the project by senior management. Management did not understand project complexity and as a result did not provide adequate resources to prevent the problems that occurred during project implementation. As an example, senior managers did not require direct supervision over inexperienced individuals for spent fuel pit manipulations, and the continuity of key project personnel was not ensured. This root cause was developed by the rereview of events associated with the project for determination of the fundamental root cause of project performance problems.

### Corrective Steps That Have Been Taken and the Results Achieved

Actions taken specific to the examples identified in the NOV are listed below.

#### Example No. 1:

The conditions associated with (1) the dummy fuel assembly not clearing the old spent fuel rack and (2) the identification of a "possibly metallic" foreign object resting on top of a spent fuel assembly were not considered as unexpected conditions on the part of the managers/supervisors over the spent fuel pit rerack project. As a result work activities were not stopped and approval to continue work was not documented as required by plant procedures.

The need to stop work for unexplained phenomena (after placing the equipment in a safe condition) was reinforced to both the fuel handling supervisors (FHSs) and the project managers. The Operations Manager documented management expectations relative to unexplained phenomena on a memo that was placed in the FHS's notebook for periodic reiteration in the shift operations supervisor shift turnover package. The actions taken resulted in successful subsequent project implementation.

#### Example No. 2:

Operations personnel failed to ensure that completed documentation was provided to the shift operations clerk for forwarding to records storage. Operations personnel could not locate the procedural pages utilized to document the completion of the prerequisites. Therefore, it was concluded that the documentation of prerequisite performance had been lost. A review of the condition determined that an Operations notebook containing the required fuel handling instruction documents was assembled prior to the start of the spent fuel pit rerack project. The FHSs involved with the project recalled reviewing the documentation and concluded that the documentation was complete. However, based on discussions with Operations personnel, the disposition of the documentation could not be determined.

Operations management reinforced the importance of returning signed documents to the shift operations clerk for forwarding to records storage. Prerequisites for the FHI were performed prior to starting each subsequent phase of the modification. Documentation associated with these subsequent prerequisite performances was hand-carried by the FHS to the shift operations clerk for record storage.

#### Example No. 3:

The individuals involved with the development of the work order incorrectly used all inclusive statements in the prerequisites section of the work order. As a result, the



prerequisites associated with the spent fuel pit radiation monitors and the demineralizer were not worded in a sufficiently precise manner, requiring a degree of interpretation to meet their intent. For the radiation monitors, the prerequisite step was intended to alert project personnel of a condition that could result in an inadvertent isolation signal as a result of a preplanned evolution. The intent of the spent fuel pit demineralizer prerequisite was to maintain demineralizer operation as much as practical. The planner acknowledged that demineralizer operation would be curtailed during specific steps such as removal of the spent fuel pit sparger line and some diver entries into the spent fuel pool.

The work order was revised to correct the two prerequisites. One prerequisite now indicates that Radiation Monitor 0-RE-90-102 or 0-RE-90-103 may be blocked to preclude the potential for a continuous radiation alarm warning in the main control room while handling the old spent fuel pit racks above the spent fuel pit water level. The second prerequisite was revised to indicate that the spent fuel pool demineralizer would be in operation when practical and that during specific activities, demineralizer operation is not required. These revisions to the work order provide consistency between the work order and the actual work process.

The Maintenance and Modification organization's management reenforced the need to refrain from using all inclusive statements in the prerequisites section of the work order with those individuals that write work orders.

#### Example No. 4:

Inadequate communications between the Engineering and Maintenance and Modifications organizations resulted in the dummy fuel assembly not clearing the spent fuel pit rack. Before the condition occurred, the Engineering organization was requested to provide clearance height information for the spent fuel pit hoist hook. The information was provided to Modifications in a 'Q' design change notice (DCN). By definition, Q-DCNs provide information interpreting the existing design output. The Engineering group issuing the Q-DCN was skeptical about the accuracy of the existing vendor drawing dimensional data because of previous experience with hoist hook data on other equipment. As a result, the Q-DCN was issued with a note stating that the high hook elevation was an assumed dimension. The Modifications planners did not interpret this statement to require field verification.

A drawing deviation was issued to address the identified discrepancies associated with the spent fuel pit bridge hoist. Additionally, group discussions were provided to the appropriate plant personnel to understand the use and limitations of Q-DCNs. A lessons learned discussion has been held with the Engineering group preparing the Q-DCN to emphasize the need to explicitly define field verification requirements for questionable or critical attributes.

Corrective Steps That will be Taken to Avoid Further Violation

Relative to the overall root cause, upper management's sensitivity to the project was raised. This resulted in: (1) the dedication of project personnel including the establishment of a full-time floor manager, (2) a personnel briefing by the Site Vice President with project management/supervision to ensure that management expectations were understood, and (3) the performance of an independent review of two specific events to obtain a better understanding of the overall cause of the observed conditions. The actions taken resulted in successful subsequent project implementation.

Lessons learned from this event have been reviewed by senior site management. Management will utilize the experience gained from this project to provide better management of future activities.

Date When Full Compliance will be Achieved

TVA is in full compliance based on the corrective actions taken relative to the identified violation.

Commitments

**Violation 327, 328/95-08-01**

Corrective action commitments were provided in LER No. 50-327/95004.

**Violation 327,328/95-08-02**

None.