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R.J. Adney  
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Sequoyah Nuclear Plant

March 15, 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,  
328/95-26 and 50-327, 328/95-27 - REPLY TO NOTICE OF VIOLATIONS (NOVs)  
328/95-26-01 AND -02 AND 328/95-27-01

Enclosed is TVA's reply to Mark S. Lesser's letters to O.D. Kingsley, Jr., dated January 17 and 30, 1996, which transmitted the subject NOVs. The NOVs are associated with the failure to follow procedures (two NOVs with multiple examples in the Operations area and one NOV with one example in the Maintenance area). The response to NOVs 327, 328/95-26-01 and -02 was originally due on February 29, 1996. The response to NOV 328/95-27-01 was originally due on February 16, 1996, and was extended to February 29, 1996. The extension of this NOV response was coordinated with the senior site resident inspector on February 8, 1996, to allow a singular response to the three NOVs. Subsequently, the response time for the three NOVs was extended to March 18, 1996. The extension of the response to the NOVs was coordinated between NRC's Mark S. Lesser and TVA's R. R. Baron on February 23, 1996. A letter documenting the extension was submitted to NRC on February 28, 1996. The extension was requested in order to allow time for senior management involvement and to evaluate the need for more extensive corrective actions.

To focus on more than the specific violations and the underlying reasons they occurred, SQN management held a site-wide stand down in order to reinforce the work standards that are expected of SQN employees. The work standards discussed included:

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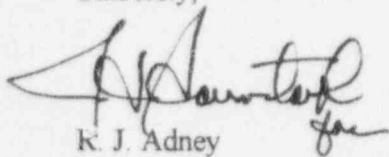
March 15, 1996

- use of procedures and procedure compliance
- supervision in the field to provide the necessary coaching of personnel on the proper methods of work performance
- prejob briefings
- communications - both within each department and across departmental boundaries
- watch standing principles
- log keeping
- accountability

Management emphasized that site personnel will be held accountable to these standards. This policy has been recently reinforced when several examples of disciplinary action were taken, including removing managers from their positions. SQN management is committed to holding personnel accountable to the site work standards.

If you have any questions concerning this submittal, please telephone me at (423) 843-7001.

Sincerely,



K. J. Adney

Enclosure

cc: (Enclosure):

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REPLY TO NOTICE OF VIOLATIONS  
NRC INSPECTION REPORT NOS. 50-327, 328/95-26 AND 95-27  
MARK S. LESSER'S LETTERS TO OLIVER D. KINGSLEY, JR.  
DATED JANUARY 17 AND 30, 1995

VIOLATION 328/95-26-01

"Technical Specification 6.8.1.a 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 3 includes procedures for startup, operation, and shutdown of safety-related PWR systems.

1. 0-SO-36-3, SECONDARY SYSTEM BORIC ACID INJECTION, Revision 7, Precaution and Limitation Section 3.0, Step F requires an Auxiliary Feedwater Pump in service while injection is in progress.
2. SSP-2.51, RULES OF PROCEDURE USE, Revision 5, Section 2.2.2.A requires continuous use procedures be present and directly referred to during the performance of work steps. 0-SO-62-7, BORON CONCENTRATION CONTROL, Revision 2 was the continuous use procedure required for reactor coolant dilution evolutions.
3. 0-PI-OPS-000-606.0, Rev. 13, BALANCE OF PLANT TEMPERATURE MONITORING SYSTEM, Section 6.1 [2], requires that if the 6900 volt Shutdown Board Room Temperature exceeds 80 °F, (a) initiate actions to expeditiously restore the 6900 volt Shutdown Board Room temperature to less than 80 °F, (b) monitor and record the 6900 volt Shutdown Board Room temperature in accordance with Appendix C (of that procedure, which requires hourly temperature monitoring).

"Contrary to the above,

1. On November 29, 1995, operations personnel attempted to inject boric acid into the Unit 1 steam generators using the Auxiliary Feedwater system flowpath without assuring an Auxiliary Feedwater pump was in service as required by 0-SO-36-3. This condition resulted in portions of the Auxiliary Feedwater system being subjected to higher than normal pressures (1650 psig).
2. On November 30, and December 1, 1995, operators conducted reactor coolant dilution evolutions on Unit 1 without 0-SO-62-7 present and directly referred to during the performance of work steps.
3. On December 8, 1995, the licensee failed to follow procedure 0-PI-OPS-000-606.0, Rev 13. Specifically, temperature as measured by Temperature Indicators TI-8 and TI-9 exceeded 80 °F, and the licensee did not initiate actions to expeditiously restore the 6900 volt Shutdown Board Room temperature to less than 80 °F, or monitor and record the 6900 volt Shutdown Board Room temperature in accordance with

Appendix C of that procedure. This resulted in the failure to identify a problem with a chiller to the 6900 volt Shutdown Board Rooms and Auxiliary Control Room areas, which lead to the malfunction and/or failure of various safety related and important to safety instruments.

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

#### REASON FOR VIOLATION

##### Example No. 1:

The cause of the inadvertent pressurization of the auxiliary feedwater (AFW) system was a personnel error, resulting in a failure to follow the precautions and limitations section of System Operating Instruction (SOI) 0-SO-36-3. An assistant shift operations supervisor (ASOS) assigned an auxiliary unit operator (AUO) the responsibility of performing a section of the subject SOI. The ASOS failed to ensure that the proper plant conditions were established before assigning the task to the AUO. When the AUO started to implement the procedure, the inadvertent pressurization occurred. A contributor to the condition was that no procedure step existed for verification of AFW system operation before starting the boric acid injection pumps.

##### Example No. 2:

This event occurred during a power escalation in which numerous dilutions were being accomplished. The cause of this violation was that some operators had a mindset that because of the repeated dilution (every few minutes), first-time completion of the SOI was acceptable for follow-on dilutions. Therefore, the operators failed to adhere to the procedural requirements for continuous-use procedures.

##### Example No. 3:

The cause of the violation was a personnel error that resulted from the failure to follow the periodic instruction (PI). The subject PI required an AUO to record the air temperature in the shutdown board room. This PI was accomplished once per shift. If the air temperature in the shutdown board room reached 80 degrees Fahrenheit (F), the PI required temperature readings to be recorded hourly. The subject violation occurred when AUOs recorded a reading of 80 degrees F on the PI but failed to adequately evaluate the temperature reading and therefore did not begin the hourly temperature monitoring of the shutdown board room. Additionally, the ASOS who subsequently reviewed the subject PI also failed to identify the off normal condition.

### CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

#### Example No. 1:

The individuals involved in this event have been counseled relative to the work standards expected of SQN employees with specific emphasis placed on communication and prejob briefings. The interface between the ASOS, the unit operator, and the AUO was not accomplished in accordance with the SQN work standards during this evolution. The proper methods of communication for this evolution were emphasized during this counseling session. Additionally, this event was discussed with each of the operating crews.

The instruction (SOI 0-SO-36-3) was revised to add an in-process verification step within the body of the instruction to ensure that a flow path exists before placing the boric acid injection pumps in service.

An evaluation of the inadvertent pressurization was performed, and it concluded that the structural integrity of the AFW piping was not adversely affected by the perturbation.

#### Example No. 2:

As a result of this event, the Operations Superintendent held meetings with each Operations crew to reemphasize Site Standard Practice (SSP) 2.51 (Rules of Procedure Use) requirements and to provide the appropriate management focus relative to this event.

The individuals involved were provided the appropriate counseling relative to the work standards expected of SQN employees with specific emphasis placed on procedural compliance.

SOI 0-SO-62-7 was revised to change the power ascension dilution section of the subject procedure to an information-use category.

Additionally, SQN has revised the procedure-use process to be consistent with good industry practice. Previously, SQN has had two types of procedures, continuous-use and information. SQN has added a third category of procedure called reference-use. A reference-use procedure allows an individual to reference the procedure throughout an evolution but does not require the procedure to be in continuous use. Through an on-going effort, SQN is continually evaluating the category of each procedure and will appropriately revise these procedures to ensure proper use.

#### Example No. 3:

The individuals performing and reviewing the PI were counseled on the work standards expected of SQN employees with specific emphasis on procedural compliance and

communication. The AUO involved in this event did not inform his supervision of the out-of-limits condition. The requirement to notify supervision was emphasized during the subject counseling session.

SQN has evaluated the subject procedure and revised it to enhance Note No. 2 to ensure that the acceptance criteria is not misunderstood and is consistent with procedural action guidance.

As an ongoing effort, Operations management has been in the process of streamlining log keeping/data taking types of procedures to ensure that they are not overly complicated.

The failed equipment was replaced, and an engineering evaluation was performed to address the elevated temperatures on the equipment in the back-up control room. The evaluation found that the equipment subjected to the elevated temperature was operable.

#### VIOLATION 328/95-26-02

"Technical Specification 6.8.1.a 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 performing maintenance.

"SSP-6.23, Rev. 4, MAINTENANCE MANAGEMENT SYSTEM-TROUBLESHOOTING, section 5.1.3 [6], requires that the foreman ensure personnel are qualified for the troubleshooting activities being performed. Section 5.1.3 [8] requires of performers that if at any time the scope of the troubleshooting changes such that the troubleshooting instructions are no longer valid or are inadequate, then ensure the troubleshooting plan is revised.

"Contrary to the above, on December 5, 1995, licensee failed to follow procedure SSP-6.23, Revision 4. Specifically, licensee maintenance foreman failed to ensure that technicians performing troubleshooting activities on the Beta Annunciator System were qualified to perform the task. The licensee also failed to stop work and revise the troubleshooting plan when it became apparent that the plan was inadequate. This resulted in an unanticipated power increase to approximately 102% on Unit 1 when an incorrect point in an annunciator cabinet was jumpered out which resulted in tripping a breaker in a process protection rack.

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

### REASON FOR THE VIOLATION

The reason for the violation was that a personnel error occurred during the performance of a work order. A technician assumed that the sequence event recorder (SER) point identified in the troubleshooting document was a hard-wired point. The Unit 2 SER point associated with the annunciator window was actually a fiber-optic retransmitted point, and as such, no hard-wired location existed. When the technician located Unit 1 SER Point 2079, he, in error, thought it to be the correct point.

SQN has evaluated the performance of the maintenance foreman and determined that the foreman's actions were appropriate. The individual involved was qualified to perform this task and an adequate prejob briefing occurred before the task began.

### CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The individual involved has received the appropriate disciplinary action and has been counseled on the work standards expected of SQN employees with specific emphasis placed on stopping work when the direction to proceed is unclear. The individual involved in this event proceeded with a task even when the appropriate direction was unclear. This point was emphasized during the counseling session.

The lessons learned from this event have been discussed with Maintenance personnel to ensure that all individuals understand the circumstances associated with this event. The work standards expected of SQN employees were discussed with Maintenance personnel during this meeting.

The effects of the reactor power increase were evaluated and were found to be within acceptable safety limits.

### VIOLATION 328/95-27-01

"Technical Specification 6.8.1.a 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 5 includes procedures for abnormal conditions.

"AOP-R 04, REACTOR COOLANT PUMP MALFUNCTIONS, Rev. 1, step 2.2.2, requires operators to check the #1 seal leakoff flow less than 5 gallons per minute (gpm). The Response Not Obtained column requires the performance of the following within 8 hours: (a) Perform normal plant shutdown using appropriate plant procedure, (b) contact Technical Support and Westinghouse for operating recommendations while continuing with this procedure, (c) when reactor power is less than 10%, then go to [sic] Section 2.1, RCP Tripped or Shutdown Required.

"Contrary to the above, on December 10, 1995, the licensee failed to follow procedure AOP-R.04, Rev. 1. Specifically, Unit 2, #2 Reactor Coolant Pump, #1 seal leakoff flow was greater than or equal to 5 gpm, and the licensee did not perform a normal plant shutdown within 8 hours.

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

#### REASON FOR THE VIOLATIONS

The cause of the violation was misjudgment on the part of the Operations management team. On December 10, 1995, at approximately 0930 Eastern standard time, the Operations Superintendent determined that implementation of a single procedure revision addressing long-term operation of the reactor coolant pump with seal return flow rates greater than 6 gpm would be preferable to producing two separate procedure revisions that may cause confusion to Operations personnel. At that time, a procedure revision containing a threshold change from 5 to 6 gpm was presented to management and could have been issued before the 8-hour, procedure-required action time for orderly shutdown of the unit expired. Operations management focused on the technical issues involved and decided to continue plant operation based on technical information provided by the pump seal vendor. This decision was made with concurrence of the on-shift SOS to issue one procedure revision. The resultant redirection of the Procedures group personnel caused a delay in issuance of the procedure revision.

#### CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

This event and the associated misjudgment were discussed with the involved managers to ensure that a full understanding of management's role in ensuring that expectation for procedure compliance is met. Management involved in this event understand the potential impact of their decisions relative to procedure compliance and will ensure that this misjudgment does not occur in the future.

The procedure change process at SQN is being evaluated to ensure that procedure changes can be accomplished within a timeframe compatible with the time allowed.

#### CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

To emphasize that SQN management is not acting in a singular fashion to these events and the resulting violations, a site-wide stand down was conducted to ensure that the standards which SQN management had developed are fully understood and that site personnel realize individuals will be held accountable to these standards. A stand down package was developed to ensure consistency of delivery to site personnel. The stand down package contained an overview of the specific examples contained in the NOVs, results of a procedure compliance common cause assessment, and key issues identified by a reliability improvement review. Focusing on management oversight of work, enforcement of work standards, procedure compliance, and accountability, emphasis has been placed on

ensuring that managers and supervisors understand that they are expected to be visible and closely involved in monitoring and enforcing work standards. The work standards that were emphasized included procedure use and compliance, communications, prejob briefings, first line supervisory involvement, watch standing principles, log keeping, and accountability. Managers and supervisors were informed that they will be held accountable for the work practices of their employees. SQN management has discussed this same message of accountability in the past; however, management has not always followed through with this expectation. SQN management is committed to continue to deliver this message to its employees and take the appropriate disciplinary action in order to change the culture at the site.

In order to ensure that this message of accountability is continually reinforced, SQN senior management will periodically evaluate site performance relative to accountability to ensure that consistent disciplinary action is being taken and that the appropriate level of supervision is initiating that action. Management has reemphasized accountability through the appropriate discipline for recent events, including removing managers from their positions.

As a result of SQN's continuing assessment of site performance, supervisory training focused on the prevention of recurring problems has been developed. The scope of the follow-on supervisory training includes reinforcement of supervisory responsibilities and the code of conduct manual, development of coaching skills, instruction on human error avoidance, and reinforcement of accountability. Each training session requires two weeks to complete. The first class of 21 supervisors started on March 11, 1996. Training classes will continue on a monthly basis (except during refueling outages) until all onsite supervisory personnel have attended. This training is a follow-on to the stand downs that have already been completed and will reinforce the message delivered in the stand downs.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With respect to the examples cited in the violations, TVA is in full compliance.

In addition, SQN is performing actions that will enhance performance at the site. These actions described above include streamlining log keeping/data taking procedures, evaluating the procedure change process, appropriately categorizing procedure types (i.e., continuous use, reference, and information), and ensuring that personnel are held accountable for their performance.

#### COMMITMENTS

None.