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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

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February 28, 1986

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U.S. Nuclear Regulatory Commission
Region II
ATTN: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 - NRC-OIE REGION II INSPECTION REPORT
50-327/85-46 AND 50-328/85-46 - RESPONSE TO VIOLATIONS

Enclosed is our response to J. A. Olshinski's January 29, 1986 letter to
S. A. White transmitting IE Inspection Report Nos. 50-327/85-46 and
50-328/85-46 for our Sequoyah Nuclear Plant which cited TVA with three
Severity Level IV Violations. Enclosure 1 is our response to the subject
violations and enclosure 2 is a listing of TVA commitments.

If you have any questions, please get in touch with R. E. Alsop at FTS
858-2725.

To the best of my knowledge, I declare the statements contained herein are
complete and true.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley
R. Gridley
Manager of Licensing

Enclosures

cc: Mr. James Taylor, Director (Enclosures)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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RESPONSE - NRC-OIE INSPECTION REPORT
NOS. 50-327/85-46 AND 50-328/85-46
JOHN A. OLSHINSKI'S LETTER TO STEVEN A. WHITE
DATED JANUARY 29, 1986

Violation 50-327/85-46-04 and 50-328/85-46-04

Technical Specification (TS) 6.8.1 requires that adequate written procedures be established and maintained covering safety-related activities stated in Appendix A of Regulatory Guide 1.33, Revision 2, which include the use of surveillance procedures and system operating instructions.

Contrary to the above, in the instances cited below, the licensee inadequately established or maintained surveillance instructions and system operating instructions.

- a. SI-256, Periodic Calibration of Overcurrent Relays and Distance Relays on 6.9 kV Reactor Coolant Pumps on 6.9 kV Unit Boards, contains the following inadequate acceptance criteria:
 1. For primary overcurrent protective devices, the procedure establishes a trip setpoint amperage tolerance value of $\pm 5\%$. TS Table 3.8-1 for both units requires a $\pm 2\%$ tolerance.
 2. For primary overcurrent protective devices, the procedure establishes a 75 degree impedance angle of maximum torque. The proper value is 105 degrees.
 3. For primary overcurrent protective devices, the procedure requires distance relay targets to operate between 1.0 and 2.0 amperes with DC voltage applied. The vendor manual for these type IAC 66K relays requires proper operation between 0.1 and 2.0 amperes.
- b. Procedure SOI 30.6, Auxiliary Building Gas Treatment System, listed use of fuses with incorrect amperage ratings and prescribed positioning of a block switch which has been previously disconnected from the circuit.
- c. Instrument maintenance procedure IMI-99, Reactor Protection System Calibration and Functional Testing, prescribed use of inadequate measuring and test equipment. The measuring and test equipment prescribed was only 2 to 2.5 times more accurate than the measured parameter when the setpoint methodology used to determine reactor protection setpoints assumed the equipment was ten times more accurate than the measured parameter.

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

1. Admission or Denial of Alleged Violation

TVA admits that the violation occurred.

2. Reason for the Violation

- a.1. Division of Power System Operations (DPSO) personnel used their Field Test Manual and relay setting sheets for developing the criteria in Surveillance Instruction (SI)-256 for the over-current protective device. The Field Test Manual, Section K3 specifies a ± 5 percent tolerance on these type devices.

The example, as stated, is not completely correct in that the TS table 3.8-1 is different for units 1 and 2. Unit 1 references the critical pickup setpoint and does not specify a tolerance. Unit 2 references the instantaneous setpoint and specifies the ± 2 percent tolerance, as stated.

- a.2. The DPSO person who added the distance relay to the SI-256 procedure was in error by using the phase-to-phase torque angle of 75 degrees, as the required value, instead of the 105 degrees three-phase torque angle that is the indication actually seen by the person performing the test.

The example, as stated, is not completely correct in that the torque angle is associated with the distance relay and not the primary overcurrent protective device.

- a.3. The operating current for the target of the overcurrent relay being misstated is apparently a typographical problem since no reason for the error can be found.

The example, as stated, is not completely correct in that the current requirement stated for the relay target is for the overcurrent relay and not the distance relay.

- b. The procedure inadequacies in System Operating Instruction (SOI)-30.6 were caused by changes made by a Field Change Request (FCR) 3055 on an existing work package. The changes affected the equipment in SOI-30.6, but the FCR was not reviewed by Operations Section for potential impact. This has been identified as a programmatic problem.

- c. The Sequoyah plant personnel who developed the instrument maintenance surveillance program were neither involved with the original review nor approval of the Westinghouse setpoint methodology (WSM). The instrument setpoints used were from the Westinghouse protection setpoint and limitations document, and the test equipment specified in the procedures was field-type test equipment with the best tolerances available. When the methodology was later transmitted to the site, the plant personnel were unfamiliar with the analytical methodology involved and did not realize it was a licensing document. Because of this, no actions were taken to incorporate it into the plant procedures.

3. Corrective Steps Taken and Results Achieved

a.1. SI-256 has been canceled, and two new instructions written for units 1 and 2 (SI-256.1 and SI-256.2) are presently in the review cycle. The tolerance for the overcurrent instantaneous trip point has been changed from ± 5 percent to ± 2 percent, which is consistent with our technical specifications. The revision will be Plant Operations Review Committee (PORC) reviewed before the next required performance date of April 8, 1986. Additionally, the TVA design engineers have performed calculations for the containment electrical penetration and verified that the previous use of a ± 5 percent tolerance has not challenged the penetrations integrity. These actions ensure that future performances will be made with the tolerance consistent with technical specifications, and no equipment that was previously calibrated using the ± 5 percent tolerance had a detrimental effect on plant safety-related equipment.

a.2. The relay setting sheet for the distance relay has been verified to be correct. The relay was only calibrated one time with the improper torque angle referenced in the SI-256 package. The DPSO technicians performing the test used the values from the relay setting sheet; therefore, a proper calibration was performed. The distance relay is not a technical specification required function; therefore, the DPSO supervisor presently is considering either removing it from SI-256.1 and SI-256.2 completely or correcting the maximum torque angle specified to 105 degrees. The DPSO supervisor will ensure one of the two corrective actions is complete before the next performance of the SIs on April 8, 1986.

The review has verified that the distance relay torque angle was properly set even though improperly stated in SI-256. Since the relay setting sheet for the distance relay is correct, either of the two corrective actions discussed will ensure future relay settings are performed correctly.

a.3. The acceptance criteria for the target of the overcurrent relay in new procedures SI-256.1 and SI-256.2 is being changed from 1.0 and 2.0 amperes to .1 and .2 amperes. This criteria is consistent with a tap setting of .2. This will be completed before the next performance on April 8, 1986.

b. SOI-30.6 was revised to correct the deficiencies. The revision was PORC reviewed on January 28, 1986. This ensures proper documentation of the items modified under FCR 3055.

c. Sequoyah has contracted with Westinghouse to perform a new setpoint analysis using the measurement and test equipment (M&TE) tolerances actually used in the plant. The initial calculations have indicated that the as-used M&TE tolerance was acceptable and would provide adequate safety margins. All work will be formalized before the unit restart.

4. Corrective Steps Taken to Avoid Further Violations

- a.1. Sequoyah's DPSO is performing a review of their SI program to ensure that all technical specifications covered are properly stated. This review will be complete by December 31, 1986.
- a.2. Sequoyah's DPSO will conduct formal training of its personnel
- a.3. in the requirements for acceptance criteria to be properly stated and complied with in surveillance instructions. Additionally, a section instruction letter (SIL) is to be written to ensure long-term compliance. The training will be complete and the SIL in place before June 30, 1986.
- b. The failure to implement changes in procedures due to changes made by FCR has been identified as a programmatic problem. Changes have been made to the administrative procedure covering modifications to ensure that when FCRs are written on existing packages, they are reviewed for effects on plant instructions.
- c. The formal Westinghouse recalculation will be complete, and any equipment that could possibly require recalibration will be recalibrated prior to the restart of either unit. The Instrument Maintenance Section supervisor will ensure that any procedures that could be affected by the recalculations will be revised before the next performance. The Sequoyah instrumentation engineering staff will be familiarized with the new setpoint methodology by June 30, 1986.

5. Date When Full Compliance Will Be Achieved

- a. Full compliance will be achieved by April 8, 1986, when procedure changes are complete.
- b. Full compliance was achieved on January 28, 1986.
- c. Full compliance will be achieved before either unit restart.

Violation 50-327/85-46-05 and 50-328/85-46-05

TS 6.8.1 requires that written procedures be implemented covering safety-related activities stated in Appendix A of Regulatory Guide 1.33, Revision 2, which includes the use of surveillance and administrative procedures. Surveillance Instruction (SI) 256, Periodic Calibration of Overcurrent Relays and Distance Relays on 6.9 kv Reactor Coolant Pumps on 6.9 kv Unit Boards was established to control testing of the primary and secondary overcurrent containment penetration protection devices required by TS 3/4.8.3. Administrative Instruction (AI) 4, Plant Instructions - Document Control, was established to provide controls for procedure changes, as required by TS 6.8.3. Contrary to the above, these procedures were not implemented in that:

- a. Initial and independent verification signoffs for conformance to SI-256 Relay Test Record Sheet acceptance criteria were made when the recorded value was outside the procedure acceptance criteria. In addition, supervisory review of the surveillance package did not identify these deficiencies.
- b. Proper procedure change control requirements of AI-4 were not implemented for pen and ink changes made in the units of measure for Relay Test Record parameters of SI-256. Supervisory review of the surveillance package did not identify these deficiencies.

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

1. Admission or Denial of Alleged Violation

TVA admits the violation occurred as stated.

2. Reason for the Violation

- a. DPSO technicians verify the target by requirements in the Field Test Manual or the relay setting sheet. From these documents, the technicians performing the test and the supervisor verified that the .2 amperes recorded were correct.

The incorrect acceptance criteria stated in SI-256 was not considered to affect the quality of the performance; therefore, the package was approved.

The Quality Assurance (QA) reviewer was not familiar with the format of SI-256. Additionally, a lack of attention to detail when making the review was also a factor.

- b. DPSO technicians were using routine relay test records and DPSO practices. The violation was due to a lack of understanding of the requirements of AI-4 on changes to QA documents.

3. Corrective Steps Taken and Results Achieved

- a. The DPSO supervisor has been made aware of the requirements of acceptance criteria in SI packages. This should ensure he does not approve any SI packages where the acceptance criteria is not met.
- b. The DPSO technicians have been informed by their supervisor of the requirement for changing QA records. Additionally, the routine relay test records are being revised to incorporate the required mechanism to select the proper tested function. This provides procedural control for the technicians to perform the required tests within the QA guidelines of AI-4.

4. Corrective Steps Taken to Avoid Further Violations

- a. A DPSO SIL will be written with a checklist to be used when revising existing instructions or writing new ones. One item on the checklist will be to verify acceptance criteria is correct as stated. Additionally, training of all Sequoyah DPSO personnel will be completed on proper use of acceptance criteria. Both items will be complete by June 30, 1986.

QA will perform training on the content and format requirements for SIs. All QA personnel responsible for performing reviews of SI data packages will receive the training. Training will be complete by March 10, 1986.

- b. The Sequoyah DPSO Section will perform a formal training program on the requirements of AI-4 which will be complete by June 30, 1986. Additionally, changing the routine relay test records will ensure no long-range QA problems exist in this area. This should preclude any future violations.

5. Date When Full Compliance Will Be Achieved

- a. Full compliance was achieved on February 24, 1986.
- b. Full compliance was achieved on February 24, 1986.

ENCLOSURE 2

TVA commits to the following actions:

1. By April 8, 1986 implement SI-256.1 and SI-256.2 to:
 - a. change tolerance on IAC66 instantaneous setpoint from \pm five percent to \pm 2 percent.
 - b. remove distance relay from procedure or correct the maximum torque angle to 105 degrees.
 - c. change target acceptance criteria to .1 and .2 amperes for overcurrent protection.
2. By June 30, 1986 conduct training of Power System Operations (PSO) personnel on properly stating and complying with acceptance criteria in surveillance instructions, and prepare a section instruction letter for future guidance.
3. By restart of units 1 and 2, recalibrate equipment as required by results of formal Westinghouse (W) recalculations of setpoints using actual plant instrument accuracies.
4. Before next performance, revise procedures affected by the above W recalculations.
5. By June 30, 1986, conduct training for the Instrument Maintenance Engineering staff on new setpoint methodology.
6. By June 30, 1986, prepare a PSO section instruction letter with a checklist for preparation of procedures. This will include guidance on acceptance criteria.
7. By March 10, 1986, conduct training on content and format requirements of surveillance instructions (SI) for QA personnel responsible for review of SI data packages.
8. By June 30, 1986, conduct training for PSO section on the requirements of Administrative Instruction AI-4, "Plant Instructions - Document Control."
9. By April 8, 1986, revise PSO routine relay test records in accordance with AI-4.
10. Before restart of units 1 or 2, submit informal Compliance Staff evaluations of measurement and test equipment accuracies for PORC review.
11. By December 31, 1986, PSO will review their SI program to ensure that the technical specification requirements are properly stated.
12. By June 1, 1986, provide a supplemental response with the results of TVA's investigation into alternate methods of fulfilling the responsibilities of PORC.