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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

LP 5N 157B Lookout Place

MAR 17 1986

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
50-327/85-49 AND 50-328/85-49 - RESPONSE TO VIOLATION

Enclosure 1 is our response to J. A. Olshinski's February 6, 1986 letter to
S. A. While transmitting IE Inspection Report Nos. 50-327/85-49 and
50-328/85-49 for our Sequoyah Nuclear Plant which cited TVA with one Severity
Level IV Violation. Commitments are provided in enclosure 2. We do not
recognize any other actions described herein as commitments.

If you have any questions, please get in touch with R. E. Alsap 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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ENCLOSURE 1
RESPONSE - NRC-OIE INSPECTION REPORT
NOS. 50-327/85-49 AND 50-328/85-49
J. A. OLSHINSKI'S LETTER TO S. A. WHITE
DATED FEBRUARY 6, 1986

Violation 50-327/85-49-01 and 50-328/85-49-01

10 CFR 50, Appendix B, Criterion V, requires that activities affecting quality shall be prescribed by documented instructions, procedures, and drawings, and shall be accomplished in accordance with these instructions, procedures, and drawings.

Sequoyah inspection instruction No. 66, inspection of supports, requires that installation conforms to applicable drawings and that all bolts are properly engaged and tightened.

Contrary to the above, between December 16-20, 1985, activities affecting quality had not been accomplished in accordance with documented instructions and drawings in that a field inspection of eight supports revealed four seismically designed supports with the following deviations from the documented requirements.

1. Support No. 1-AFDH-244, Rev. 7, pipe clamp bolts on the snubber side was loose.
2. Support No. 1-AFDH-254, Rev. 6, jam nut on the structural attachment side of the sway strut was loose.
3. Support No. 1-AFDH-411, Rev. 1, item 2 of the vertical rod was bent.
4. Support No. 2-SIH-444A, Rev. 1, one of the two vertical trapeze rods was disconnected.

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

1. Admission or Denial of Alleged Violation

TVA admits that the violation occurred as stated.

2. Reason for Violation

The violation occurred due to personnel error in that :

- a. The bolts on Support No. 1-AFDH-244 appear to have been loosened while removing the Calcium Silicate insulation. (Violation Item No. 1)
- b. The bent vertical rod on Support No. 1-AFDH-411 appears to have been damaged due to modification and repair work ongoing in the area (scaffolding being braced against rods). (Violation Item No. 3)

- c. The vertical trapeze rod on Support No. 2-SIH 444A appears to have been disconnected to provide clearance to perform work on valve FCV 63-4. (Violation Item No. 4)

No evidence could be found to determine the reason the pipe clamp bolts were loose on Support No. 1-AFDH-254. (Violation Item No. 2)

3. Corrective Steps Taken and Results Achieved

- a. The supports referenced in the Notice of Violation have been brought up to current inspection standards. A walkdown inspection was performed in the Auxiliary Building to determine the severity of the problem. The walkdown team consisted of a mechanical engineer from the Modifications Group, two craftsmen, and a Quality Control (QC) inspector. The scope of the walkdown was to inspect as many accessible supports as possible, to tighten loose bolts and correct bent rods in the presence of a QC inspector, and note any other obvious problems. Supports inside C-zone areas and supports requiring scaffolding were not included in this inspection.

Approximately 3,000 supports were inspected of which 66 (22 on pipe larger than two-inch diameter) were found to have loose bolted connections and 10 (seven on pipe larger than two-inch diameter) with bent or broken rods. Approximately 90 other supports were found to exhibit problems such as chipped grout under base plates, welds needing paint, and apparently missing Unistrut clamps for instrument lines.

Of the 66 supports found to have loose bolted connections, 30 were due to loose rods. Modifications and Additions Instruction (M&AI)-11 concerning installation and inspection of seismic supports states: "It is acceptable for a vertical support to have a total gap of 5/32 inch under the pipe, provided that the first vertical support upstream and downstream of the subject support is in contact with the pipe." This statement implies that a vertical support may exhibit loose rods provided adjacent vertical supports do not exhibit loose rods. Such was the case on all 30 loose rods found on the walkdown inspection. In order to enhance the margin available in the supports, the loose rods were tightened during the course of the walkdown, and other noted suspected discrepancies have been dispositioned.

Ten bent rods were identified. Two of these had scaffolding built around them. TVA concluded that modification and repair work caused the rod bending.

- b. In addition, the Mechanical Maintenance Section reviewed MRC's concern about the "handtight" acceptance criteria of M&AI-9. A determination has been made that the bolted connection acceptance criteria in M&AI-9, step 6.2.3.1, is fully adequate to ensure connections are properly tight at the time the work is performed and inspected.
- c. Also, MRC expressed concern that the Sequoyah Pipe Support Design Manual (PSDM), Volume 4, indicates that all pipe clamp hex nuts should be replaced with two jam nuts, and none of the supports observed had double jam nut installations. The Sequoyah Office of Engineering (OE) concurs that the PSDM is a guideline used by pipe support designers, and its intended function is not to define support installation criteria to the field. Sequoyah installs pipe supports in accordance with criteria specified in G-43, "The Construction Specification for Support and Installation of Piping Systems in Category I Structures." Paragraph 2.7, of G-43, addresses locking devices, but footnote 3 to paragraph 2.7 indicates that locking devices are only required for plants under the jurisdiction of ASME Boiler and Pressure Vessel Code, section III, subsection NF. Bellefonte Nuclear Plant is the first TVA plant under the jurisdiction of subsection NF. Therefore, paragraph 2.7 of G-43 is not applicable to Sequoyah.

4. Corrective Steps Taken to Avoid Further Violation

- a. All modifications and maintenance carpenters are to be instructed in the requirements of Hazard Control Instruction (HCI)-M2 as it applies to scaffolds supported from CSSC equipment with special emphasis on hangers. This item will be completed by April 30, 1986.
- b. TVA's Employee Concern Program emphasizes that employees are obligated to report items found to be out of compliance with specifications or procedures. This has been explained to all site employees.
- c. The periodic performance of Surveillance Instruction (SI)-114, "Preservice Baseline Inspection for Tennessee Valley Authority Sequoyah Nuclear Plant," SI-114.1, "ASME Section XI In-Service Inspection Program Unit 1," and SI-114.2, "In-Service Inspection Program for Tennessee Valley Authority Sequoyah Nuclear Plant Unit 2 Only," will ensure that any loose fasteners on code Class I, II, and III, pipe supports will be identified. The implementing Inspection Instruction NVT-1, of Technical Instruction (TI)-51, "Assignment of Detailed Test Methods and Responsibility for Non-Destructive Testing," goes beyond the normal scope of ASME, section XI, in that base plates and anchorage are included. SI-162.1, "Snubber Visual Inspection (Hydraulic and Mechanical)," will ensure that loose fasteners on safety-related snubbers will be

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identified. The SIs require checking for loose fasteners and initiating work requests to correct the problem. Field Change Request (FCR-4093) has been initiated to add a note to the 47A050 series, hanger installation notes, to allow the plant staff to take remedial actions for loose fasteners. After the revision to drawing 47A050 is issued, Mechanical Maintenance will take action (after approval by the Office of Engineering) to secure any support identified to have loose fasteners with an appropriate locking device. This action will be taken whether the loose fasteners are found during surveillance or maintenance activities. The information contained in the plant instruction to ensure compliance and in 47A050's note will be included in NVT-1 to ensure that In-Service Inspection Section is informed concerning requirements for locking devices. NVT-1 will be revised by September 5, 1986.

5. Date when Full Compliance will Be Achieved

The plant was in full compliance on February 24, 1986. However, as stated in section 4 above, the modifications and maintenance carpenters will be instructed in the requirements of HCl-A2 by April 30, 1986, and NVT-1 will be revised by September 5, 1986.

ENCLOSURE 2
COMMITMENTS MADE IN RESPONSE TO 50-327, -328/85-49

1. By September 5, 1986 revise inspection procedure EVT-1 to ensure that the Inservice Inspection Section is informed, concerning requirements for locking devices. The revision will reflect changes to add a note to 47A050 series hanger installation note pursuant to Field Change Request FCR 4093.
2. By April 30, 1986, Modifications carpenters are to be instructed in the requirements of Hazard Control Instruction (HCI-M2) as it applies to scaffolds from CSSC equipment, with specific emphasis on hangers.
3. By April 30, 1986, Maintenance carpenters are to be instructed in the requirements of Hazard Control Instruction (HCI-M2) as it applies to scaffolds from CSSC equipment, with specific emphasis on hangers.