

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

15 MAR 29 1985

March 28, 1985

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:

WATTS BAR NUCLEAR PLANT UNIT 1 - RESPONSE TO VIOLATION 50-390/85-18-01 -
IMPROPER DESIGN OF PIPE SUPPORT 47A496-5-14, R1 AND 50-390/85-18-02 -
CORRECTIVE ACTION FOR CONDUIT SUPPORT CS-R1-1497

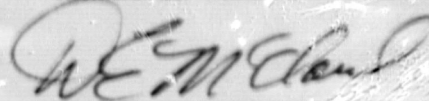
This is in response to R. D. Walker's letter dated March 18, 1985,
report numbers 50-390/85-18, 50-391/85-16 concerning activities at the
Watts Bar Nuclear Plant which appeared to have been in violation of NRC
regulations. Enclosed is our response to the citations.

If you have any questions concerning this matter, please get in touch with
R. H. Shell at FTS 858-2688.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



D. E. McCloud,
Nuclear Engineer

Enclosure

cc (Enclosure):

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

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
RESPONSE TO SEVERITY LEVEL IV VIOLATION
50-390/85-18-01
IMPROPER DESIGN OF PIPE SUPPORT 47A496-5-14 R1 AND
50-390/85-18-02
CORRECTIVE ACTION FOR CONDUIT SUPPORT CS-R1-1497

Violation 50-390/85-18-01 - Improper Design of Pipe Support 47A496-5-14 R1

Description of Deficiency

10 CFR 50, Appendix B, Criterion III, as implemented by Watts Bar, FSAR Section 17, requires that measures to assure design control shall include provisions to assure that appropriate quality standards are specified and included in design documents; the design control measures shall provide for verifying or checking the adequacy of design.

Contrary to the above, a system required to mitigate the consequences of a postulated accident was not being designed to appropriate quality standards in that pipe support 47A496-5-14, R1, was improperly designed for the steam generator wet lay-up piping. The as-installed support could not serve its intended function in terms of withstanding the compressive force during a seismic event as required by the stress analysis.

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

TVA Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation, but wishes to include the following clarifying statements. As written, the violation implies the pipe support could not withstand a compressive force. Although TVA agrees the pipe support could not serve its intended function, the pipe support as designed would not be destroyed under seismically induced compressive loading conditions, but would merely rotate as the pipe moved downward. This configuration after rotation would result in reduced load reaction on the pipe and pipe support.

2. Reason for Violation

This violation occurred because those involved with the improper design failed to consider the effects of three hinges in series. The original design consisted of a single away strut off the floor which, due to a floor drain, could not be installed. As a solution, two struts were improperly recommended and installed, one on each side of the floor drain, with a horizontal tube steel spanning between the two struts.

3. Corrective Steps Taken and Results Achieved

Nonconformance Report (NCR) WBN CEB 8504 has been initiated to resolve the instability of the support. The support has been redesigned and all action required to close the NCR is complete.

4. Corrective Steps Taken to Avoid Further Violations

TVA has determined that this is an isolated case and not a generic condition. Additional work packages by the same designer were reviewed to determine if this type or similar type problems were overlooked by those involved with the design and verifying the adequacy of the design. The designer's calculations which were reviewed have been determined to be adequate or above average; therefore, this condition is considered to be an oversight.

To prevent potential recurrence, pipe support designers have been instructed in the requirements stated in the Watts Bar Pipe Support Design Manual, Section 7.1, Rev. 2. This section is entitled "Things to Avoid in the Design of Pipe Supports."

5. Date When Full Compliance Will Be Achieved

TVA is now in full compliance.

Violation 50-390/85-18-02 - Corrective Action for Conduit Support CS-R1-1497

Description of Deficiency

10 CFR 50, Appendix B, Criterion XVI, as implemented by Watts Bar, FSAR Section 17, requires that measures shall be established to assure that conditions adverse to quality, such as nonconformances are promptly identified and corrected.

Contrary to the above, conditions adverse to quality were not promptly identified and corrected in that one category I conduit support CS-R1-1497, which was inspected on May 25, 1979, was installed with missing nuts and washers for two concrete expansion anchor bolts, and portions of concrete under the baseplate were damaged. As a result, the support may not be able to perform its intended function during a seismic event.

This is a Severity Level IV Violation (supplement II).

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reason for the Violation

This violation is attributed to unauthorized work on a finalized feature. At the time the support was originally inspected and documented as acceptable in May of 1979, all hardware was in place and the adjacent concrete was undamaged. After this date, work was performed in the area which resulted in the support being left in an unacceptable condition.

This was not promptly documented as a nonconforming condition and the support inspection documentation was not updated to show that the support required reinspection.

3. Corrective Steps Taken and Results Achieved

Nonconforming condition report 5974 was initiated to resolve this condition and the support was reworked and inspected. Documentation has been updated to show that this support is now acceptable.

4. Corrective Steps Taken to Avoid Further Violations

WBN QCI-1.07, "Work Release," was initially issued on May 24, 1982. Section 6.7.1 of this procedure requires that any rework which is performed on documented features must be properly authorized. Section 6.7.2 requires that rework release identify all inspections that are to be repeated as a result of the rework.

5. Date When Full Compliance Will Be Achieved

TVA is now in full compliance.