

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

November 19, 1982 A 8 : 34

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - RESPONSE TO VIOLATIONS  
50-438/82-28-08, COMPRESSION FITTINGS AND 50-438, 50-439/82-28-01,  
BALANCE OF PLANT ISOLATOR CABINETS

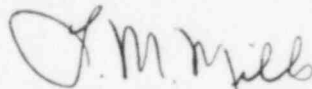
This is in response to R. C. Lewis' letter dated October 21, 1982, report numbers 50-438/82-28, 50-439/82-28, concerning activities at the Bellefonte Nuclear Plant which appeared to have been in violation of NRC regulations. Enclosed is our response to the citations.

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



L. M. Mills, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

ENCLOSURE  
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2

RESPONSE TO SEVERITY LEVEL V VIOLATION 50-438/82-28-08  
COMPRESSION FITTINGS

Description of Deficiency

10 CFR 50, Appendix B, Criterion V and Tennessee Valley Authority (TVA) Final Safety Analysis Report, Section 17.1A.5 requires that activities affecting quality be accomplished in accordance with procedures and drawings.

Bellefonte Quality Control Procedure BNP-QCP-4.3 Rev. 4 states: Paragraph 6.1.1.11 Part A - Tubing sections to be joined shall be cut to the proper length to ensure that the end of the tube bottoms against the shoulder in the fitting. The cutting of the tubing must be square and all burrs inside and outside removed and the tube end must be cleaned. Care in handling must be exercised to avoid scratching or abrading the surface of the tube.

Bellefonte field construction procedure BNP-FCP 4.3.3 Rev. 0 implements these requirements.

Contrary to the above, during the week of August 30, 1982, the resident inspector identified seven examples where the tubing sections used for make-up of compression fittings were improperly prepared and had not been deburred.

Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

Reason for the Violation

The violation occurred because of instrumentation craftsmen not preparing stainless tubing ends properly as required by procedure. The applicable Quality Control Procedure, BNP-QCP-4.3, requires that tubing prepared for use with compression fittings must be cut square and all burrs, inside and out, removed and the tube end must be clean. In addition, Field Construction Procedure BNP-FCP-4.3.1, states that tubing cutters shall not be used on stainless steel tube. The tubing shall be cut with a hacksaw and deburred. The tubing sections cited as improperly prepared resulted from the craftsmen attempting to simplify the work assignment because use of hacksaws with vices is more difficult in some areas than using tubing cutters.

Corrective Action Taken and Results Achieved

QCIR 25013 was written on September 2, 1982, to document the deficient compression fittings cited by the violation. All improperly cut tubing identified by the resident inspector will be replaced. In addition, all compression fittings in the two tubing lines involved will be inspected and any found to be improperly prepared will be replaced.

Steps Taken to Avoid Further Violations

The compression fittings in question had not yet received the QC inspection defined by site QA procedure, which requires that at least one compression fitting per tubing size and per tubing line be inspected for proper installation. Failure of one compression fitting requires inspection of an additional compression fitting in that line. Failure of the second compression fitting requires inspection of all compression fittings in that tubing line. TVA believes that the QC program in effect has and will continue to prevent unacceptable installation of compression fittings from going uncorrected. All instrumentation craft foremen have received several training sessions involving preparation of tubing and installation of compression fittings since the time that the incorrect installations were performed. In addition, the instrumentation craft superintendent has required that all tubing cutters at Bellefonte be turned in to prevent their use and all future tubing will be prepared only with hacksaws.

Date of Full Compliance

Corrective action identified in QCIR 25013 will be completed by March 1, 1983.

RESPONSE TO SEVERITY LEVEL IV VIOLATION 50-438, 50-439/82-28-01  
BALANCE OF PLANT ISOLATOR CABINETS

Description of Deficiency

10 CFR 50, Appendix B, Criterion V and Tennessee Valley Authority (TVA) Final Safety Analysis Report, Section 17.1A.5 requires that activities affecting quality be accomplished in accordance with procedures and drawings.

The disposition section of Nonconformance Report (NCR) 1472, written for the Balance of Plant isolator cabinets states: Bellefonte construction will move the terminal blocks located next to the door mechanism toward the rear of the cabinet such that a minimum of 1/2 inch is provided between the wiring harness connected to the terminal blocks and the leading front edge of the cabinet.

TVA letter in response to violation 438, 439/82-14-01, under the section corrective action taken and results achieved, states: All work performed on isolator cabinets was performed correctly, including that work performed without written instructions, in accordance with the approved disposition on NCR 1472.

Contrary to the above, on September 9, 1982, the resident inspector identified several areas in the Balance of Plant isolator cabinets where the spacing requirements specified on the disposition of NCR 1472 were violated. These cabinets had the work completed and were inspected by Quality Control. In addition, on cabinet 2IX-ISOL-262 which the original NCR was written against, a jumper wire between TB2 and TB4 had been damaged and never corrected.

Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

Reason for the Violation

The violation occurred as the result of a misinterpretation of the approved disposition of NCR 1472 by instrumentation engineering personnel responsible for the preparation of corrective action instructions. The disposition of NCR 1472 specified that the terminal blocks located nearest to the door locking mechanism be moved toward the rear of the cabinet such that a minimum of 1/2-inch clearance would be provided between the wiring harness connected to the terminal blocks and the leading front edge of the cabinet. The engineering personnel interpreted the disposition to require that the terminal blocks be moved 1/2-inch and in some cases the desired 1/2-inch clearance between the wiring harness and the cabinet was not achieved. Responsible QC personnel verified the corrective action specified on the work release by engineering personnel was performed correctly; however, the specified corrective action itself was incorrect.

Because of the obscure location of the jumper wire between TB2 and TB4, it was inadvertently overlooked during the performance of corrective actions for NCR 1472.

Corrective Action Taken and Results Achieved

The nonconforming condition identified by the violation and previous nonconformance report (NCR) 1472 has been redocumented on NCR 1981. The disposition of NCR 1981 is identical to NCR 1472 and has been approved. Concerns have been identified by Bellefonte Construction employees that the flexibility and freedom of movement in the wiring harness may cause future problems in the cabinets; therefore, an evaluation is being performed to determine a possible alternate solution to the nonconformance by modifying or removing the door latch mechanism.

If the evaluation proves that the alternative solution provides a more suitable corrective action, then the disposition of NCR 1981 will be revised and the cabinets corrected accordingly. If the evaluation deems the alternative unacceptable, the cabinets will be corrected as defined in the existing disposition of NCR 1981.

QCIR 25180 was written on September 9, 1982, to correct the jumper wire between TB2 and TB4.

Steps Taken to Avoid Further Violations

TVA believes that the misinterpretation of the disposition in NCR 1472 reflects an incident of an isolated nature. However, applicable instrumentation engineering personnel have been instructed in the necessity of thoroughly reviewing and evaluating the dispositions of NCRs among other quality-related instructions, before implementation of work. The applicable personnel have been instructed to discuss detailed instructions with their technical peers and group leaders before generating corrective action documentation.

Failure to correct the jumper wire between TB2 and TB4 was also determined to be an isolated occurrence.

Date of Full Compliance

Regardless of the solution chosen, all corrective action necessary to provide assurance that all cabinets are in full compliance with applicable requirements will be completed by May 1, 1983.