

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

83 NOV 14 P 21 00 November 3, 1983

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - RESPONSE TO VIOLATIONS  
50-438/83-23-01, 50-439/83-23-01 - VISUAL INSPECTION OF INSIDE WELD  
SURFACES - 50-438/83-23-02, 50-439/83-23-02 - HOUSEKEEPING -  
50-438/83-23-03 50-439/83-23-03 - PIPING BUTT WELD OFFSET  
50-438/83-23-04 - HANGER EMBEDMENT PLATE - 50-438/83-23-05 - HVAC DUCTWORK  
SUPPORTS

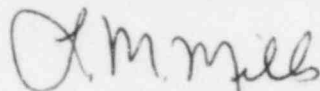
This is in response to R. C. Lewis' letter dated October 5, 1983,  
report numbers 50-438/83-23, 50-439/83-23 concerning activities at the  
Bellefonte Nuclear Plant which appeared to have been in violation of NRC  
regulations. Enclosed is our response to the citations.

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)  
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U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
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ENCLOSURE  
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
RESPONSE TO SEVERITY LEVEL V VIOLATION  
50-438/83-23-01, 50-439/83-23-01  
VISUAL INSPECTION OF INSIDE WELD SURFACES

Description of Deficiency

10 CFR 50, Appendix B, Criterion IX and the accepted QA program (TVA-TR-75-1A, Rev. 5) Sections 17.1A.9 requires that measures shall be established to assure welding is controlled and accomplished in accordance with applicable codes and specifications. TVA's Process Specification 3.M.5.1 (d) Addendum No. 10 paragraph B.4.2 states: "Inside surfaces of welds may generally be considered accessible when the weld is within two (2) pipe diameters of the open end."

Contrary to the above, reviews of Welding Quality Control inspection records revealed that the inside of numerous field welds on ASME Section III Class 2 main steam 32" diameter pipes were not inspected by QC and were accessible for inspection (Units 1 & 2).

TVA Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reason for the Violation

The failure of welding quality control (WQC) to inspect inside weld surfaces of the main steam lines can be attributed to a misunderstanding of accessibility from TVA's interpretation of Process Specification 3.M.5.1 (d) Addendum No. 10, paragraph B.4.2. The greatest problem was determining the acceptable distance for inside inspection of weld joints since the inspectors felt that weld joints which were several pipe diameters from the access point or required traversing vertical runs which could necessitate the use of special equipment were inaccessible. This condition was determined to be a problem only after a difference of opinion was identified by NRC.

3. Corrective Steps Taken and Results Achieved

TVA generated quality control investigation report (QCIR) 15,404 to identify the arc strikes and lack of penetration discovered from weld 2SM00058. The weld was repaired and accepted by WQC, the arc strike was removed and the QCIR was closed. TVA generated QCIR 36,784 and nonconformance report (NCR) 2504 to identify the piping welds on the main steam lines greater than 30 inches which had no QC inspection performed on the inside surfaces. NCR 2504 has been recommended to TVA's Division

of Engineering Design (EN DES) with a disposition to "use-as-is" based on: (1) Statistical results indicate that no generic problem exists where WQC omission of root side visual examination has occurred. Visual examination was completed and accepted on 33.6 percent of the accessible Main Steam and Main Feedwater weld roots (39 welds were inspected out of 116). (2) Evidence of material thinning is evaluated as a standard practice during review and acceptance of radiographs.

4. Corrective Steps Taken to Avoid Further Noncompliance

All WQC inspectors certified as Level II in welding inspection were retrained to TVA Process Specification 3.M.5.1 (d) Addendum No. 10 paragraph B.4.2, with special consideration applied to the proper interpretation of weld accessibility. The retraining was completed on October 14, 1983.

5. Date When Full Compliance Will Be Achieved

TVA will be in full compliance by January 15, 1984, at which time NCR 2504 will be resolved by EN DES and the NCR can be closed.

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
RESPONSE TO SEVERITY LEVEL V VIOLATION  
50-438/83-23-02, 50-439/83-23-02  
HOUSEKEEPING

Description of Deficiency

10 CFR 50, Appendix B, Criterion II and the accepted QA Program (TVA-TR-75-1A, Rev. 5) requires in part that, "Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanness."

TVA's accepted QA Program (TVA-TR-75-1A Rev. 5) commits to ANSI 45.2.3-1973 (Housekeeping During the Construction Phase of Nuclear Power Plants).

Section 3.2.1 of ANSI 45.2.3-1973 states in part "Garbage, trash, scrap, litter and other excess material shall be collected, removed from the job site, or disposed of in accordance with specified requirements or planned practices. Such excess material shall not be allowed to accumulate and create conditions that will adversely affect quality."

TVA's Quality Control Procedure (QCP) 10.27, Rev. 7, implements the ANSI 45.2.3-1973 requirement for housekeeping controls.

Contrary to the above, on August 23, 1983, conditions existed in the Auxiliary Building. These conditions were subsequently detailed in Housekeeping Deficiency Report Nos. 902 and 903 (Units 1 and 2).

TVA Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reason for the Violation

Hourly supervisors had neglected to assume their supervisory responsibilities and insure their crew members complied with QCP-10.27.

3. Corrective Steps Taken and Results Achieved

The Auxiliary Building was cleaned to comply with QCP-10.27. Construction supervisors were instructed to reemphasize to the hourly foremen under their supervision that the hourly foremen are responsible to insure the employees they supervise comply with QCP-10.27. Supervisors failing to insure compliance will be appropriately disciplined.

4. Corrective Steps Taken to Avoid Further Noncompliance

Inspections led by the appropriate group supervisor will continue with emphasis being placed on similar violations in other work areas. Management personnel with work responsibilities in the Auxiliary Building and laborers will monitor the situation so corrective measures can be taken to prevent additional violations. Management personnel were notified by written memorandum from the Construction Superintendent's office that the hourly foremen will be expected to ensure compliance with QCP-10.27.

5. Date When Full Compliance Will Be Achieved

TVA is now in full compliance.

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
RESPONSE TO BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
50-438/83-23-03, 50-439/83-23-03  
PIPING BUTT WELD OFFSET

Description of Deficiency

10 CFR 50, Appendix B, Criterion IX and VII and the accepted QA Program (TVA-TR-75-1A, Rev. 5) Section 17.1A.9 and 17.1A.7 respectively require that measures shall be established to assure that welding is controlled and accomplished in accordance with applicable codes and specifications.

TVA's Process Specification 3.M.5.1 specifies that the maximum offset for butt weld fitup is 1/32" all around and 3/32" in any localized area.

Contrary to the above, during the week of August 1, 1983 the resident inspectors noted by visual inspection that butt weld joints ONB00224-S1 (ASME Section III, Class 3) and WEU 1B311 (ANSI B 31-1) violated the maximum offset requirements of TVA's Process Specification 3.M.5.1. Radiography conducted at the residents' request verified the offset violation as well as incomplete fusion. (Units 1 and 2).

TVA Response

1. Admission or Denial of the Alleged Violation

TVA denies the violation occurred as stated.

Explanation

The visual examination conducted by the resident NRC Inspectors of the outside diameters of the two welds did indicate possible unacceptable internal offset of weld joints ONB00224-S1 (ASME Section III-3) and WEU 1B31.1 (ANSI B31.1). Performance of radiography on the subject welds revealed an appearance of excessive offset in addition to other unacceptable characteristics. QCIR 35,740 and Welding Engineering Unit Discrepancy Report 8-23-83-2 were initiated to identify the possible unacceptable offset and other problems. As a result, the welds joints were cut out and replaced. Further evaluation of the inside offset of the cut out weld joints, utilizing physical measurement by QC in the presence of the NRC resident, indicated the offsets were acceptable in accordance with TVA Process Specification 3.M.5.1 R5, paragraph A4, "Alignment, Mismatch and Fitup." The resident inspector concurred with the measurements and conclusions.

BELLEFONTE NUCLEAR PLANT UNIT 1  
RESPONSE TO SEVERITY LEVEL V VIOLATION  
50-438/83-23-04  
HANGER EMBEDMENT PLATE

Description of Deficiency

10 CFR 50, Appendix B, Criterion V and the accepted QA Program (TVA-TR-75-1A, Revision 5) Section 17.1A.5 requires that activities affecting quality be accomplished in accordance with drawings. TVA drawings 4RW0517-X2-04 Rev. 7, 4RW0518-X2-10 Rev. 9, and 4RW0518-X2-12 Rev. 7 specify the installing location and configuration of embedment plate (P 936). This installation included four (4) 1-3/4" diameter rods threaded 5" with associated nuts.

Contrary to the above, Hanger IND-MPHG-0048 Rev. 2 was installed with its 1/2" x 4" x 4" structural tubing over one of the exposed rods. To accomplish this installation, the nut was removed and the QC accepted hanger was installed. (Unit 1).

TVA Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reasons for the Violation

The incorrect installation of the cited support occurred because the craftsmen failed to follow procedure by removing the nut and washer required to be on the embedded plate. The nut prevented the tube steel from fitting flush on the embedded plate and was removed by the craftsmen. The conflict with the nut and washer should have been identified to the site engineering staff for resolution. It should be noted that the embedded plate with threaded rods were originally designed for installation of pipe whip restraints which were later deleted.

3. Corrective Steps Taken and Results Achieved

TVA initiated QCIR 29,836 to document the unacceptable installation of pipe support IND-MPHG-0048 Rev. 2. The support was redesigned for attachment to another embedded plate. The old design support was removed and the nut/washer were reinstalled, inspected and accepted. The new design support was installed, inspected and accepted. All components in question are now installed in accordance with design drawing requirements.

4. Corrective Steps Taken to Avoid Further Noncompliance

TVA considers this situation to be an isolated occurrence based on no known duplication of the incident. However, a memorandum was issued from the steamfitter superintendent to all assistant superintendents and craft

hanger foremen emphasizing the importance of preventing unauthorized work on features which have been installed and the necessity of contacting the site engineering staff for resolution of conflicts with permanent features during additional equipment installation.

5. Date When Full Compliance Will Be Achieved

TVA is now in full compliance.

BELLEFONTE NUCLEAR PLANT UNIT 1  
RESPONSE TO SEVERITY LEVEL V VIOLATION  
50-438/83-23-05  
HVAC DUCTWORK SUPPORTS

Description of Deficiency

10 CFR 50, Appendix B, Criterion V and the accepted QA Program (TVA-TR-75-1A, Revision 5) section 17.1A.5 require that activities affecting quality be accomplished in accordance with drawings. Process Specification VO.C.I.I (a), Paragraph 3.7.3 states the following part: "Members distorted by welding may be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat."

TVA's Bellefonte Quality Control Procedure BNP-QCP-10.4, Rev. 9, Paragraph 5.2 states the following: "Engineering and inspection unit representatives initiate QCIRs and NCRs, ensure identification of nonconforming items, and verify completed corrective action."

Contrary to the above, the resident inspector noted that the ironworker craft had beaten and straightened (via sledge hammer) several HVAC supports. These supports were heated without any direct measurements. In addition, both mechanical QC and engineering personnel were aware of these activities; however, a QCIR or NCR was not generated. Also the ironworkers had not been trained in Bellefonte's Quality Control Procedure BNP-QCP-6.7 which they were using to perform the work (Unit 1).

TVA Response

1. Admission or Denial of the Alleged Violation

Since this violation addresses three factors which contributed to the violation, this response will address these items individually.

1. TVA admits the portion of the violation occurred as stated with regard to the failure to properly train the ironworkers in QCP-6.7 (HVAC Duct Work Installation).
2. TVA denies the portion of the violation occurred as stated with regard to the method of straightening used on the cited supports.

Reason: The existing provisions within the procedures currently approved allow the use of the sledge hammers and the heat application methods described in the violation. The limited amount of heat required to straighten the hangers was applied using normal construction practices by a qualified craftsman who has the job training and experience necessary to observe and control this process. The Process Specification delineates that a dull red color may be achieved during heat application and TVA feels that this guidance is adequate for its craftsmen.

In support of this practice, TVA metallurgists duplicated conditions during the work in question with a test support. Hardness testing on the actual support and on the test support indicated no adverse effects on the material. Additionally, a test support was heated and liquid cooled to estimate a worst case condition and the results were still favorable.

3. TVA denies the portion of the violation occurred as stated with respect to the failure to properly identify a nonconformance on the heating of the supports. Until the resident NRC inspector made known his concern in the matter, TVA had no reason to suspect a nonconformance existed. In fact, the only reason the QCIR (31,827) was generated was to track the NRC concern. The results of the investigation of this QCIR indicated that no condition adverse to quality existed.

2. Reason for the Violation

The responsible craft superintendents failed to ensure that the craftsmen were trained to the appropriate procedures prior to performing the work.

3. Corrective Steps Taken and Results Achieved

QCP 10.30 (Craft Quality Assurance Training) has been revised to include QCP-6.7 training for ironworkers. The training required is now complete, and all ironworkers are in compliance.

4. Corrective Steps Taken to Avoid Further Noncompliance

Both the Quality Manager and Construction Superintendent are required now to review craft training attachments to determine adequacy of craft training.

5. Date When Full Compliance Was Achieved

Full compliance was achieved on August 30, 1983