

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 24, 1980

Mr. James P. O'Reilly, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Region II - Suite 3100  
101 Marietta Street  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEVILLE NUCLEAR PLANT UNITS 1 AND 2 - INFRACTION 50-438,439/80-14-01 -  
VISUAL INSPECTION PROGRAM DOES NOT COMPLY WITH CODE REQUIREMENTS AND  
INFRACTION 50-438,439/80-14-02 - MAGNETIC PARTICLE EXAMINATION PROCEDURES  
AND PRACTICES DO NOT COMPLY WITH CODE REQUIREMENTS

This is in response to C. E. Murphy's letter dated September 12, 1980,  
RII:JJB 50-438/80-14, 50-439/80-14, concerning activities at the Belle-  
fonte Nuclear Plant, which appeared to have been in violation of NRC  
regulations. Enclosed is our response to infractions 80-14-01 and  
80-14-02. Our response to deficiency 80-14-03 was submitted on  
October 6, 1980.

If you have any questions concerning this matter, please get in touch with  
D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills*  
L. M. Mills, Manager

Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Jr., Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
RESPONSE TO NRC INFRACTION  
VISUAL INSPECTION PROGRAM DOES NOT COMPLY WITH CODE REQUIREMENTS

Infraction 438, 439/80-14-01

As required by 10CFR50, Appendix B, Criterion IX, and implemented by FSAR Paragraph 17.1A.9, "Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements."

Contrary to the above, the visual examination program does not comply with applicable code requirements as shown by the following examples.

- (1) Visual examiners are not certified as specified by the ASME Code in that certification is not administered by a Level III examiner and the certification process does not include the required practical examination.
- (2) Several examples of improper visual examination were noted by NRC inspectors during this inspection, e.g., 6-inch diameter pipe weld 2RK-0036 was accepted on final visual examinations without examining accessible inside surface; four weld joints between pipe and heavy wall fittings were accepted on final visual examination without the required 3:1 transition taper; fitup of weld joint INL-00232 was accepted (after visual examination with improper gauge) even though bevel did not meet procedure requirements.
- (3) The licensee has identified several hundred piping socket and structural fillet welds which had been accepted by visual examination but did not meet acceptance criteria.

Corrective Steps Taken and Results Achieved

In reference to item (1) above, we have reviewed our visual examination program and have compared it to the requirements of paragraph NF-5000 of the ASME Code. The ASME Code requires that visual examiners attain levels of competency comparable to those of SNT-TC-1A. The TVA visual examiners are trained and required to demonstrate this level of competency. TVA does not agree that our program is in noncompliance with the ASME Code.

Those items listed in item (2) are minor in nature, and after investigating each item, we believe that the Notice of Violation does not accurately describe the events. None of the examples described violates an ASME Code requirement.

The situation identified in item (3) does not reflect our present program. These items were reported by TVA earlier this year as nonconformance reports 1188 and 1203 (transmitted from L. M. Mills to J. P. O'Reilly on June 6 and September 19, 1980), and appropriate procedural changes as well as employee retraining have been completed to correct this problem. In addition, a standard operating procedure was written to monitor this program to make sure that these changes are effective. The completion of our corrective action on this matter will be described in our final report on these nonconformances.

#### Corrective Steps Taken to Avoid Further Noncompliance

Even though TVA believes we are not in noncompliance, TVA is also concerned with the frequency of conditions of the type noted above and has initiated an extensive evaluation to identify the basic cause of these problems and establish measures to upgrade our entire welding and nondestructive examination program in order to increase its efficiency. This should improve our ASME Code-required visual examinations and significantly reduce problems of this nature in the future. The recommendations for improvements in the TVA welding and NDE program based on this evaluation are expected by January 1, 1981.

These program improvements should significantly reduce problems of this type in the future.

#### Date When Full Compliance Will be Achieved

We are in full compliance.

ENCLOSURE  
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
RESPONSE TO NRC INFRACTION  
MAGNETIC PARTICLE EXAMINATION PROCEDURES AND PRACTICES  
DO NOT COMPLY WITH CODE REQUIREMENTS

Infraction 438, 439/80-14-02

As required by 10CFR50, Appendix B, Criterion IX, and implemented by FSAR, Paragraph 17.1A.9, "Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements."

Contrary to the above, magnetic particle examination procedures and practices do not comply with applicable code requirements as shown by the following examples:

- (1) Magnetic particle procedure G-29M-3.M.2.1(c) does not include the method for applying and removing MT powder as specified by ASME Code.
- (2) Magnetic particle examination of weld OWD-00456 was conducted using excessive powder and improper removal techniques.
- (3) During observation of a properly conducted MT examination of a weld repair, several base metal defects were discovered which should have been discovered during the MT examination of the original weld.

Corrective Steps Taken and Results Achieved

TVA does not believe that procedure G-29M-3.M.2.1(c) of the TVA magnetic particle examination program was in noncompliance with the ASME Code. Justification has been provided in TVA's response to infraction 518, 519/80-17-01 on Hartsville Nuclear Plant which was transmitted from L. M. Mills to J. P. O'Reilly on September 22, 1980. The TVA training procedures for MT examination are approved by a Level III examiner and the training includes methods for applying and removing powder.

Weld OWD-00456, cited above as an example, was reexamined by an MT examination and no defects were found. It is pointed out that this weld is a horizontal weld on a vertical surface and the possibility of applying excessive powder is unlikely.

The indications identified as an example in item (3) above were discovered during the MT examination of the original weld. The indications were noted and were being evaluated for acceptability. The NRC inspector was notified before the exit meeting that these indications had been found during the original examination. To verify that no generic problem exists, 40 other electrical penetrations of the same material were examined and no indications were found.

Corrective Steps Taken to Avoid Further Noncompliance

Even though TVA believes we are not in noncompliance, in order to further improve our program, G-29M-3.M.2.1(c) was revised on October 6, 1980, to reiterate the method of application and removal of powder as stated in the ASME Code, Section V, SE-109.

Date When Full Compliance Will Be Achieved

We are in full compliance.