

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

SEP 25 8 9: 21

September 22, 1980

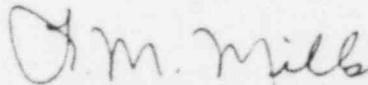
Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

Enclosed is our response to C. E. Murphy's August 28, 1980, letter, RII:LDZ 50-518/80-18, -520/80-17, regarding activities at our Hartsville Nuclear Plant which appeared to have been in violation of NRC regulations. If you have any questions regarding this subject, please call Jim Domer at FTS 857-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

8101080307

ENCLOSURE
RESPONSE TO NRC-OIE LETTER
FROM C. E. MURPHY TO H. G. PARRIS
DATED AUGUST 28, 1980

Please reference RII: LDZ 50-518/80-17, 50-520/80-17

This report responds to the Notice of Violation described in Appendix A of the OIE inspection report referenced above. This is the final report on the subject noncompliance.

Noncompliance Item - Infraction 518, 520/80-17-01

- A. As required by 10CFR50, Appendix B, Criterion IX, as 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 magnetic particle examination procedure, QCI-N201, does not specify the method of applying or removing the magnetic particle powder, nor does it specify the amount of prod overlap to assure 100 percent coverage of the test surface. In addition, a magnetic particle examiner did not apply or remove magnetic particle powder properly, nor was the coverage of the test area considered adequate.

This is an infraction.

Response

1. Corrective Steps Taken and Results Achieved

- a. ". . . Magnetic Particle Examination Procedure, QCI-N201, does not specify the method. . ."

TVA does not believe that QCI-N201 was in violation of ASME requirements at the time of the cited violation for the following reasons:

- (1) ASME Section 5, Paragraph T-751, does not require that the method of application or removal of powder be included in the written procedure.
 - (2) TVA believes the description of the method of application and removal of MT powder is a training function. The inspector must learn by experience how to recognize lightly held powder patterns and adjust the blowing technique so that these patterns are not disturbed.
- b. ". . . nor does it specify the amount of prod overlap to assure 100-percent coverage of the test surface."

TVA, in QCI-N201, makes the statement (as does ASME Section V, Paragraph T-734.4), "Examinations shall be made with sufficient overlap to assure 100-percent coverage." TVA has also interpreted the ASME requirement of paragraph T-751(H) for procedures to include, "Sketches or a chart indicating coverage, where necessary for clarity," to not be necessary in normal weld MT inspections as performed under QCI-N201. No other MT requirements concerning amount of overlap have been found in ASME Code. TVA believes this item to also fall under the responsibility of the training program to teach the inspectors to use "large" overlap (verified by field indicator) to ensure full coverage of the test surface. Therefore, TVA does not believe we were in violation of ASME requirements on this item.

- c. "In addition, a magnetic particle inspector did not apply or remove magnetic particle powder properly, nor was the coverage of the test area considered adequate."

Please refer to items a.(3) (a), (b), and (c) in the referenced inspection report which TVA assumes represent the concerns of the NRC inspector involved. TVA assumes the examination noted was one in which the NRC inspector witnessed containment anchor bolt chair weld repairs. Our positions on the items follow:

- (1) Lighting of the test surface - The TVA inspector involved has indicated that adequate lighting, either indirect or direct, was available throughout the time of MT examinations. Also, no specific ASME requirements exist which require a "beam of light" to always be directed on the test surface during testing.
- (2) "The examiner applied vigorous blowing, in most cases, to remove excess powder."

TVA completed simple tests by manometer on powder blowers similar to that in use by the TVA inspector (as required by the NRC inspector). These blowers produced less than one-half inch of water pressure at one inch from the nozzle (less than the one inch of water pressure limit recommended by SE-109, referenced by ASME Section V). TVA does not concur that vigorous blowing was employed, nor does the Authorized Nuclear Inspector (ANI) who witnessed the test at a closer proximity than the NRC inspector.

- (3) "The examiner did not appear to have adequate overlap of the test prods to assure 100-percent coverage of the test surface."

The area being examined was an excavation for weld repair and not the entire weld. TVA feels that this MT examination did include adequate overlap to ensure 100-percent coverage of the test surface.

The ANI witnessed the MT examination discussed above in (1), (2), and (3) and had none of the concerns as expressed by the NRC inspector.

As a result of the reasons expressed above, TVA does not believe that we were in violation of TVA or ASME requirements or procedures and does not believe we were in noncompliance. However, in order to alleviate future misunderstandings on the subjects of method of applying and removing powder and prod overlap, TVA will revise Process Specification 3.M.2.1, Revision C, which will be incorporated into QCI-N201. This revision will include a statement on methods of applying and removing powder and a sketch of recommended method to ensure 100-percent coverage of the test surface.

2. Corrective Steps Taken to Avoid Further Noncompliance

Not applicable.

3. Date When Full Compliance Will Be Achieved

Not applicable since TVA's position is that we were in compliance when cited.

Noncompliance Item - Infraction 518, 510/80-17-02

- B. As required by 10CFR50, Appendix B, Criterion IX, as 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 training and qualification program for visual examination is not in complete compliance with Section V of ASME (which invokes SNT-TC-1A) in that three-year recertification is not required; practical examination does not specify ten checkpoints for establishing examiner candidate proficiency; nor are acceptable/unacceptable surface conditions illustrated, such as in a workmanship sample.

Response

1. Corrective Steps Taken and Results Achieved

TVA does not concur that our training and qualification program for visual examination is in noncompliance with ASME Section V as cited in the infraction for the following reasons:

- (a) SNT-TC-1A requirement - SNT-TC-1A (1975) does not address visual examination. The qualification requirements for visual examination personnel as contained in ASME Section III, NF-5521, in part, are as follows:

For nondestructive examination methods not covered by SNT-TC-1A documents, personnel shall be qualified by the Manufacturer or Installer to comparable levels of competency by subjection to comparable examinations on the particular method involved. The practical portion of the qualification shall be performed using the Manufacturer's or Installer's procedure or part representative of the Manufacturer's products.

(b) The emphasis shall be on the individual's ability to perform the nondestructive examination in accordance with the applicable procedure for the intended application.

In addition, the requirements of ASME Section III are expanded upon in Code Interpretation III-1-79-26 as follows:

2. Reply: Pending the development and addition of specific requirements for visual examination to ASNT-TC-1A, NX-5520 of Division 1 and CB/CC-5110 of Division 1 of Section III are satisfied by the use of practical and specific examination which reflects the requirements appropriate to the item being examined, to the Code, and to the Certificate Holder's procedures.

The requirements of ASME Section V, T-170, as noted in the infraction read as follows: "The manufacturer shall be responsible to develop training programs, written procedures, examinations and practical demonstrations, equivalent to those required for the other examination methods covered by SNT-TC-1A. These shall establish the capability of the personnel to perform the required examinations."

In the opinion of TVA, the qualification/certification program for visual inspectors includes written procedures, examinations, and practical demonstrations considered equivalent to that required by SNT-TC-1A (for the NDE methods it addresses). Specifically for areas addressed in the infraction: (1) Recertification - CEP-2.10 requires the visual inspector's QC supervisor to evaluate his job performance in periods not to exceed two years. This evaluation determines if his capabilities reflect his certification validity. If such is not the case, the procedure then requires removal from operations until retraining and recertification has been effected. (2) Ten checkpoints - Our present program at HTN and later projects employs specific and practical examination phases. The practical phase included a minimum of 40 checkpoints per the inspection procedure that were not written into a formal

checklist. However, to prevent future misunderstandings in this area, a formal detailed checklist has been developed and is currently being used.

- (b) Workmanship samples - Various weldment "workmanship" samples are and have been used during training. These samples are used to acquaint as well as assess the capability of an individual to recognize and evaluate acceptable and nonacceptable conditions. At the time of the subject inspection, the employment of these samples was not formalized. TVA feels that the approximately 125 hardware samples used in this program provide an adequate representation of the conditions that an inspector will encounter. New samples are and have been added when new or unusual conditions are/were found. These samples represent all of the types of defects described in QCI-N501. To prevent misunderstandings in this area, TVA will formally catalog samples used in the inspector training program.

2. Corrective Steps Taken to Avoid Further Noncompliance

Not applicable.

3. Date When Full Compliance Will Be Achieved

Not applicable since TVA's position is that we were in compliance when cited.

E30259.05