TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

April 25, 1983

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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
50-438/83-04-02, 50-439/83-04-02, CABLE MINIMUM BEND RADIUS -
50-438/83-04-04, 50-439/83-04-04, SIDE BOLTING OF ELECTRICAL PANELS

This is in response to D. M. Verrelli's letter dated March 25, 1983, report numbers 50-438/83-04 and 50-439/83-04 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

D S Kammer

D. S. Kammer,
Nuclear Engineer

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

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
RESPONSE TO SEVERITY LEVEL V VIOLATION
50-438/83-04-02, 50-439/83-04-02
CABLE MINIMUM BEND RADIUS

Description of Deficiency

10 CFR 50, Appendix B, Criterion V, as implemented by Bellefonte's FSAR Section 17.1A.5, requires activities affecting quality to be prescribed by documented instructions in the form of drawings, specifications, and procedures. General Construction Specification G-38 states that cable radius of bend must not be less than minimum bending radius as determined by this specification. Contrary to the above, bend radius of cables at Trays TY5-A649-A, TY5-A561-B, and TY4-AA91-A exceeded the minimum as specified in G-38.

Response

Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

Reasons for the Violation

Preliminary investigations revealed that the basic cause of the bend radius problem is the particular design configuration where voltage level V-5 and, in some cases, voltage level V-4 cables travel through a cable tray and exit from the tray into other cable trays, conduits, and equipment.

Corrective Steps Which Have Been Taken and the Results Achieved

Quality Control Investigation Record (QCIR) Nos. 26207, 26208, 26213, and 26215 were written to track those cables in the locations identified above, which violate minimum bend radius requirements. In one case, a cable was reconfigured to produce an acceptable bend radius and QCIR 26213 was closed with that resolution. QCIRs 26207 and 26208 were investigated and found not to conform to specification. Acceptable results were not attainable due to raceway design configuration. NCR 2331 was prepared to resolve this issue. QCIR 26215 describes a problem similar to those in QCIR 26207 and 26208 and will be dispositioned in accordance with NCR 2331.

Corrective Steps Taken to Avoid Further Violation

An investigation of similar raceway design configurations containing Class 1E cables has been performed and a similar condition existed; therefore, NCR 2331 was upgraded to a significant condition adverse to quality (CAQ) because of generic implications. This NCR was determined to be reportable under the requirements of 10 CFR 50.55(e). Additional actions to prevent recurrence will be addressed in the 10 CFR 50.55(e) report.

Date When Full Compliance Will Be Achieved

TVA will be in full compliance upon final resolution of NCR 2331, December 30, 1983.

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
RESPONSE TO SEVERITY LEVEL V VIOLATION
50-438/83-04-04, 50-439/83-04-04
SIDE BOLTING OF ELECTRICAL PANELS

Description of Deficiency

10 CFR 50, Appendix B, Criterion V, as implemented by Bellefonte's SAR Section 17.1A.5, requires activities affecting quality to be prescribed by documented instructions in the form of drawing specifications and procedures. Quality Control Procedure (QCP) 3.13, Section 7.1.8 states in part that torquing of fasteners is to be accomplished to the values specified in EN DES or vendor documents. If no specific instructions exist, fasteners shall be secured so that their removal requires the use of tools or so that split-type lock washers, if required, are visibly seated.

Contrary to the above, cabinet connection bolts were not tightened on the following electrical panels: 2EI-EMCC-65A between cabinets C and D, 2EI-EMCC-70B between cabinets L and K, and 2EG-EMVS-07B between cabinets B and C.

Response

Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

Reasons for the Violation

The above referenced equipment panels are shipped from the vendors to Bellefonte in subassemblies. The equipment is then reassembled and installed on site and QC inspected per QCP-3.13, "Equipment Installation." The violation occurred as the result of TVA's failure to use vendor torque values in the installation of this equipment. Vendor torque values were not available to site personnel during installation. The values used were taken from G-38, Specification Torque Values. These values should not be used for installation of this equipment.

Corrective Steps Which Have Been Taken and the Results Achieved

a) The condition adverse to quality was documented by QCIR 28032.
b) NCR 2112 was generated to replace the deficiency.
c) TVA got in touch with the vendors involved and obtained the necessary torque values and supplied these values to TVA's Division of Construction personnel.
d) Work releases were written to correct the condition adverse to quality as noted (Work Releases 40919, 41536, and 41308). Other work releases will be prepared to correct similar conditions on units 1 and 2 motor control centers and medium voltage switchgear equipment.

Corrective Steps Taken to Avoid Further Violation

TVA's Division of Engineering Design engineering procedure (EP) 5.30, "Standard Format for the Preparation of Procurement Specifications," will be revised to ensure that vendor torque values are provided where applicable.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved by July 29, 1983.