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400 Chestnut Street Tower II

July 27, 1981

WBRD-50-390/81-54
WBRD-50-391/81-52



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:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - FOXBORO MCA TRANSMITTERS -
WBRD-50-390/81-54, WBRD-50-391/81-52 - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on June 29, 1981 in accordance with 10 CFR 50.55(e) as NCR WBN EEB 8109. Enclosed is our first interim report. We expect to submit our next report by September 3, 1981. TVA considers 10 CFR 21 applicable to this deficiency.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
FOXBORO MCA TRANSMITTERS
WBRD-50-390-81-54, WBRD-50-391/81-52
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

A letter from the Foxboro Company dated March 12, 1981 indicated that some Foxboro transmitters might have deficient components in the amplifier of the transmitter. The transmitters which might be affected are models E-11 and E-13 with suffix codes /MCA, /MCA/RRW, or /MCA/RR and a 10 to 50 mA output.

The first issue involves the possible use of incorrect insulating sleeving on transistor and zener diode lead wires in the amplifier. Teflon sleeving has been substituted for silicone coated glass radiation resistant sleeving in some transmitters. Tests have shown that teflon will become brittle and deteriorate after exposure to a substantial integrated radiation dose. Foxboro testing has demonstrated that the teflon sleeving used in these devices will withstand an integrated dose of 10 megarads with no noticeable deterioration. Tests of 200 megarads produce the brittle conditions which can result in the teflon flaking from the wires.

The second issue involves the use of a specific vendor's capacitor, which is not hermetically sealed (although claimed to be so). As a result, the capacitor electrolyte can leak over a period of time under adverse conditions, specifically heat. This phenomenon was observed in recent tests of transmitters using these capacitors. The capacitor in question is manufactured by Cornell-Duelbilier and can be specifically identified by a type number in the form TX-65-XXXX as well as a monogram in a box followed by a date code, e.g., CDE 0874. It is assigned Foxboro part No. N0141MF.

The two deficiencies described above may have been caused by Foxboro's failure to inspect or specify these components of the transmitter, and they represent a potential breakdown in the vendor's QA program.

An identical NCR is being handled for Sequoyah Nuclear Plant unit 2 under report SQRD-50-328/81-43 (NCR SQN EEB 8118).

Interim Progress

TVA is in the process of inspecting all Foxboro model E-11 and E-13 type MCA transmitters which are used in safety systems. Sleeving inspected thus far has been of the correct type.