

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
1630 Chestnut Street Tower II

April 8, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

On April 3, 1985 your staff submitted informally several questions regarding environmental qualification of Foxboro pressure transmitters. TVA has reviewed those questions and have prepared responses which are contained in the enclosure.

If you have any questions, please call R. E. Alsup at FTS 858-2725.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer
J. A. Domer
Nuclear Engineer

Sworn to and subscribed before me
this 8 day of April 1985

L. Cheryl Clark
Notary Public
My Commission Expires 6/24/86

Enclosure

cc (Enclosure):

U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. Carl Stahle
U.S. Nuclear Regulatory Commission
Sequoyah Project Manager
7920 Norfolk Avenue
Bethesda, Maryland 20814

8504160061 850408
PDR ADOCK 05000327
P PDR

AOA 9
11

ENCLOSURE
ENVIRONMENTAL QUALIFICATION OF FOXBORO PRESSURE TRANSMITTER
MODEL E11GM (NON-MCA) FOR SEQUOYAH NUCLEAR PLANT

Introduction

The Office of Engineering (OE) has the responsibility for determination of environmental qualification of components and preparation of NCRs and FE/ERs. This information is transmitted by the Office of Engineering-Nuclear Engineering Branch's Chief Nuclear Engineer to the plant Site Director. Site personnel in Nuclear Power, as the owner operator, has the responsibility for preparing a safety evaluation, determining equipment operability and reportability. With this in mind, the following responses to the NRC questions provides TVA's position and basis regarding pressure transmitters 1 and 2, PDT-30-42, -43, -44, and -45.

NRC QUESTION

- a. Were the subject transmitters environmentally qualified at the time Revision 0 of the NCR and the associated FE/ER were approved by the Chief Nuclear Engineer? If it was considered qualified provide the basis for that determination.

TVA RESPONSE

The subject transmitters were qualified for interim use in accordance with 10 CFR 50.49 when Revision 0 of the NCR and associated Failure Evaluation/Engineering Report (FE/ER) were approved by the Chief Nuclear Engineer, Nuclear Engineering Branch.

The subject transmitters were initially evaluated in September 1981 and May 1982. Based on their similarity with other qualified transmitters, the subject transmitters were deemed qualified for eight years. When RO of the NCR was prepared, a concern was documented regarding postaccident accuracy requirements versus transmitters accuracy. RO of the FE/ER assumed that the test data of a similar tested transmitter could not support the accuracy requirements of the Final Safety Analysis Report (FSAR) as documented by RO of the NCR. These evaluations were actually based on a misinterpretation of test data in that the similar transmitters were tested in a more severe environment than the SQN specific environment where all the transmitters are physically located. Therefore, based upon the above, a reevaluation was performed.

NRC QUESTION

- b. Were the subject transmitters operable at the time Revision 0 of the NCR and FE/ER were approved by the Chief Nuclear Engineer? If it was considered operable, provide the basis for that determination.

TVA RESPONSE

The subject transmitters were OPERABLE and were never declared inoperable. The transmitters PDT-30-44 and -45 are postaccident

monitoring (PAM) instruments (LCO 3.3.3.7). These two instruments had been demonstrated operable by performance of a channel check and channel calibration as required by surveillance requirements. The PAM transmitters were not declared inoperable due to Revision 0 of this NCR and FE/ER since the approach taken was in error. Specifically, the transmitters were located outside primary containment and the accuracy applied in the FE/ER was that associated with similar transmitters located inside containment. It was determined upon initial receipt that the approach taken in the FE/ER was based on a misinterpretation of test data and it was determined before the expiration of the NCR procedure time limits that the accuracy requirement of the FSAR could be met. The other two transmitters (PDT-30-42 and -43) are non-PAM indicators and were incorrectly included within the scope of the NCR and FE/ER. All four of these transmitters perform their short-term safety functions (high one, high two containment pressure) before the environment becomes harsh and are considered operable as required by LCO 3.3.2.1.

NRC QUESTION

- c. Were the subject transmitters environmentally qualified at the time Revision 1 of the NCR and FE/ER were approved by the Chief Nuclear Engineer? If it was considered qualified, provide the basis for that determination.

TVA RESPONSE

The subject transmitters were qualified for interim use in accordance with 10 CFR 50.49 when Revision 1 (R1) of the NCR and associated FE/ER were approved by the Chief Nuclear Engineer, Nuclear Engineering Branch.

Revision 1 of the NCR was issued to remove PDT-30-42 and -43. These transmitters are not required for long-term postaccident monitoring and, therefore, were still considered qualified per the original 1981/1982 evaluation. R1 of the failure evaluation was written to incorporate the correct interpretation of the test data of the similar transmitters and to remove PDT-30-42 and -43.

The evaluation contained in the equipment qualification sheet and justification for continued operation concluded that the subject transmitters, PDT-30-44 and -45, were qualified for interim use in accordance with 10 CFR 50.49.

NRC QUESTION

- d. Were the subject transmitters operable at the time Revision 1 of the NCR and FE/ER were approved by the Chief Nuclear Engineer? If it was considered operable, provide the basis for that determination.

TVA RESPONSE

The non-PAM transmitters (PDT-30-42, -43) were not within the scope of Revision 1 to the NCR and FE/ER. The PAM transmitters were OPERABLE in accordance with LCO 3.3.3.7. Their operability was based on channel checks, and channel calibrations performed in accordance with applicable surveillance requirements. In addition, the accuracy of the subject transmitters was shown in the FE/ER to be within that allowed by the FSAR.

NRC QUESTION

- e. Provide the current status of these transmitters with respect to environmental qualification and operability, and the bases for these determinations.

TVA RESPONSE

The PAM pressure transmitters (PDT-30-44 and -45) have been replaced with transmitters (Barton Model No. 764) which are environmentally qualified, independent of similarity. Environmental qualification for this instrument is documented in Westinghouse letter from Ed Novotnak to J. A. Raulston dated January 22, 1985 (WAT-D-6354) and Westinghouse test report WCAP-8687, Supplement 2, E03A, Revision 2. In addition to the transmitter accuracy given in the Westinghouse letter above, the total loop accuracy has been calculated as a maximum of 4.6 percent. This is a much tighter accuracy than is currently stated in SQN's FSAR (10 percent) for maintaining containment integrity. Thus, PDT-30-44 and -45 are environmentally qualified independent of similarity and operable.

PDT-30-42 and -43 are non-MCA Foxboro E11GMs. These transmitters are non-PAM indicators and were inaccurately included within the scope of the NCR and FE/ER. These transmitters, in combination with PDT-30-44 and -45, will perform their short-term safety functions (high one, high two containment pressure) before the environment becomes harsh and are operable as required by LCO 3.3.2.1.

It should be pointed out that the PAM pressure transmitters were replaced to eliminate any question as to the environmental qualifications of the transmitters and at no time were the transmitters considered inoperable.