

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION IV

Docket No: 99900297/82-01

Environment Qualification Program: Phase II Test Program for Foxboro NE-10 Series Pressure Transmitters, Report No. 99900297/82-01.

Equipment Identification:

Test Specimen: Foxboro Transmitters, Pressure and Differential Pressure
(as described below)

<u>Test Specimen No:</u>	<u>Serial No:</u>	<u>Mod. No:</u>	<u>Type</u>	<u>Range</u>
F1	4456838	N-E11GM-HIE2	Gauge	1600-2400 psig
F2	4456842	N-E11GH-IIM2	Gauge	0-3000 psig
F3	4456846	N-E13DM-IIM1	Differential	30-150 inches water
F4	4456849	N-E13DH-HIM1	Differential	0-200 inches water
F5	4456851	N-E13DH-IIH1	Differential	0-500 inches water

Test Organization: Wyle Laboratories (Eastern Operations), Scientific Services and Systems, 7800 Governors Drive West, Huntsville, Alabama, 35807

Manufacturer's Facility: Foxboro Company, Foxboro, Massachusetts

Contract No: Wisconsin Electric Power Company (For Utility Group), Purchase Order Number A-61384

Inspection Conducted: January 22, 1982

Inspector: J.R. Agee
J.R. Agee, Equipment Qualification Section
(EQS)

7/23/82
Date

Approved By: Alva L. Smith
for H. S. Phillips, Chief, EQS

7/27/82
Date

Details Section

(Prepared by J. R. Agee)

A. Persons Contacted

Mr. J. A. Sears - Foxboro Corporate Engineer

B. General

1. Objectives

The inspection of the Foxboro site was a multipurpose inspection, namely to determine:

- a. That Foxboro was responsive to correction of the transmitter anomalies.
- b. Whether the transmitters were assembled by regular manufacturing personnel in compliance with implemented QA manufacturing procedures or whether the transmitters had been specifically assembled for the scheduled equipment qualification test at Wyle Labs.
- c. That the transmitters had been functionally tested to standard manufacturing procedures prior to shipment.
- d. That the transmitters had been inspected, packed and shipped in compliance with implemented packaging and shipping procedures.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Discussions with the cognizant Corporate Engineer who was responsible for and aware of all activities relative to the transmitters supplied to Wyle for the equipment qualification test.
- b. Inspection of the storage and assembly area where the transmitters were assembled and functionally tested by qualified manufacturing assembly personnel in compliance with implemented test procedures.
- c. Verifying the contracted transmitters were submitted to the packaging and shipment personnel for standard handling in compliance with implemented procedures.

3. Findings

- a. The Foxboro Company's corrective action, relative to the N-E 10 Series Pressure Transmitter anomalies, was prompt. An explanation of the activities observed at the Foxboro Facility includes the following:
- (1) The initial assembly of the F-1 to F-5 transmitters were assembled in compliance with normal production practices and procedures. The transmitters received no special emphasis during the assembly, functional testing, and packaging and shipping activities.
 - (2) The misapplication of the overranged bourdon tubes (12K psi) for the F-2 transmitter was considered to be an isolated occurrence. Since the incident the:
 - (a) identity and storage of high range bourdon tubes has been modified;
 - (b) storage of 12K psi bourdon tubes has been discontinued and all 12K psi tubes discarded. Following the F-2 incident all future needs for 12K psi bourdon tubes will be furnished by special purchase orders on an as-needed basis.
 - (3) Foxboro had revised applicable manufacturing instructions for the affected N-E Series Pressure Transmitters. No outstanding work remained to be performed on the identified transmitters.
- b. The purpose of the inspection conducted at the Foxboro Company Plant Site, Foxboro, Massachusetts, was to verify the status of the correction of anomalies concerning the Foxboro Pressure Transmitters, F-1/2/3/4/5 that were initially identified in the NRC Report 99900902/81-01, Report No. 1, dated December 18, 1981. The transmitters, at the time the anomalies were detected, were scheduled for further examinations at the Wyle Laboratories before the commencement of qualification testing.
- c. The review and discussions with the Foxboro Corporate Engineer, Mr. J. A. Sears, revealed the following: each of the anomalies identified by the NRC Report 99900902/81-01, Report No. 1, had been thoroughly described by the Wyle Laboratories in documents entitled Notice of Anomaly (NOA). The Wyle NOA's Nos. F1-F9 inclusive, had been submitted to Foxboro for review, analysis, and proposed corrective action by Foxboro. At the time of this inspection, each NOA had been reviewed and addressed by Foxboro with recommendations for corrective action. Disposition of the proposed corrective actions had been discussed with and approved by the Lead Customer, Wisconsin Electric Power Company, (WEPCO).