

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES 46/85

NONCONFORMANCE REPORT

Project No. 20-01402-571

NCR No. 2002-03

PART 1: DESCRIPTION OF NONCONFORMANCE:

Fluke Multimeter 73850992 Model # 87 III (Asset number 007645) was found to be out of tolerance during a normally scheduled calibration.

Initiated by: 
Darrell S. Dunn

Date: 1/8/2002

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition:

Accept data obtained in tests using this electrometer as is.

Basis of Disposition:

The electrometer was found to be out of tolerance on AC Voltage ranges 900 V @ 60 Hz and 900 V @ 1kHz and DC Voltage ranges 350 V and 1000 V. The multimeter is primarily used for trouble shooting. Other electrometers with outputs that can be read by data acquisition systems, such as a Keithley, are generally used to record measurements. In addition, the ranges found to be out of tolerance are not used in the laboratory. The multimeter was found to be in tolerance for all parameters that are used in laboratory tests. Consequently, the out of tolerance condition will not adversely affect the parameters measured during testing.

Action to Correct Nonconformance:

None. The calibration cycle for this instrument will be retained as is.

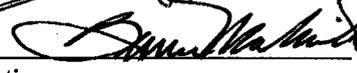
Proposed by: 
Darrell S. Dunn

Target date for completion: 1/15/2002

Date: 1/8/2002

PART 3: APPROVAL

Element Manager:  Date: 1/14/2002

Director of QA:  Date: 1/14/2002

Comments/Instructions:

PART 4: CLOSE OUT

Comments: No further action required.

Verified by:  Date: 1/14/2002

Distribution:

Original - QA Records
Darrell Dunn
Vijay Jain
M. Ernstson / 30
S. Grossin

47/55

OUT OF TOLERANCE

**SOUTHWEST RESEARCH INSTITUTE
CALIBRATION LABORATORY
MEMORANDUM**

December 27, 2001

OUT OF TOLERANCE

To: DARRELL DUNN DIV20 B57

From: Walt Hill, Supervisor 
Institute Calibration Laboratory

Subject: Status of Calibration Supplier

OUT OF TOLERANCE

Manufacturer/Model: FLUKE 87 III

Description: MULTIMETER

Serial Number: 73850992

Asset Number: 007645

OUT OF TOLERANCE

Work Order Number: 444046367

Date Calibrated: December 21, 2001

Supplier: ROTHE DEVELOPMENT, INC., SAN ANTONIO, TX

Remarks: ROTHE CERTIFICATE NO.: 45190:1008932270

OUT OF TOLERANCE

- Supplier is on the Approved Suppliers List (ASL) and is accredited.
- Supplier is on the Approved Suppliers List (ASL) but is not accredited.
- Supplier is not on the Approved Suppliers List (ASL). Please contact Don Dunavant at ext. 2942 if you wish to add the supplier to the ASL.

Please notify the Institute Calibration Laboratory, extension 5215, of any discrepancies with the item or calibration documentation.

OUT OF TOLERANCE

Attachment(s) 9

OUT OF TOLERANCE

OUT OF TOLERANCE

ROTHER DEVELOPMENT METROLOGY SERVICES

CALIBRATION DATA: FLUKE 87 SERIES III MULTIMETER

CUSTOMER: SWRT
WO NUMBER: 002016556
SERIAL: 73850992
CUST ID: _____

DATE: 21 Dec 01
TECH: PJS
INST NO: 45190

CALIBRATION DATA TAKEN

INCOMING ✓
OUTGOING _____

CONDITION OF EQUIPMENT

IN TOLERANCE _____
OUT OF TOLERANCE ✓ *
AC & DC Voltage

ROTARY SWITCH TEST

ACV POSITION-DISPLAY READS	0	±12 C	PASS /	FAIL
DCV POSITION-DISPLAY READS	-32	±12 C	PASS /	FAIL
mV DC POSITION-DISPLAY READS	-64	±12 C	PASS /	FAIL
OHMS POSITION-DISPLAY READS	-96	±12 C	PASS /	FAIL
DIODE POSITION-DISPLAY READS	-128	±12 C	PASS /	FAIL
mA/A POSITION-DISPLAY READS	-160	±12 C	PASS /	FAIL
uA POSITION-DISPLAY READS	-192	±12 C	PASS /	FAIL

AC VOLTAGE ACCURACY

INPUT	MIN	READING	MAX
350 mV 60 Hz	347.2	<u>348.6</u>	352.9
350 mV 1 kHz	346.1	<u>349.2</u>	353.9
350 mV 5 kHz	342.6	<u>349.6</u>	357.4
350 mV 20 kHz	341.0	<u>356.5</u>	359.0
3.5 V 60 Hz	3.473	<u>3.489</u>	3.527
3.5 V 1 kHz	3.461	<u>3.489</u>	3.539
3.5 V 5 kHz	3.426	<u>3.494</u>	3.574
3.5 V 20 kHz	3.410	<u>3.508</u>	3.590
35 V 60 Hz	34.73	<u>34.90</u>	35.27
35 V 1 kHz	34.61	<u>34.95</u>	35.39
35 V 5 kHz	34.26	<u>34.97</u>	35.74
35 V 20 kHz	34.10	<u>34.92</u>	35.90
350 V 60 Hz	347.3	<u>349.5</u>	352.7
350 V 1 kHz	346.1	<u>350.1</u>	353.9
350 V 2.5 kHz	342.6	<u>349.9</u>	357.4

900 V 60 Hz
900 V 1 kHz

892 919 908 *
887 920 913 *

FREQUENCY TEST

INPUT	MIN	READING	MAX
150 mV RMS 19 kHz	18.998	<u>18.999</u>	19.002
150 mV RMS 190 kHz	189.98	<u>189.99</u>	190.02

FREQUENCY SENSITIVITY AND TRIGGER LEVEL TEST

RANGE	INPUT SIGNAL	MIN	READING	MAX
4 V AC	300 mV 1 kHz	999.8	<u>999.9</u>	1000.2
4 V DC	1.7 V 1 kHz	999.8	<u>999.9</u>	1000.2
4 V DC	1.0 V 1 kHz		<u>0</u>	0000
40 V DC	6.0 V 1 kHz	999.8	<u>999.9</u>	1000.2
40 V DC	2.0 V 1 kHz		<u>0</u>	0000

DC VOLTAGE ACCURACY

INPUT	MIN	READING	MAX
+3.5 V	3.497	<u>3.501</u>	3.503
+35.0 V	34.97	<u>35.02</u>	35.03
-35.0 V	-34.97	<u>35.02</u>	-35.03
+350 V	349.7	<u>351.6</u>	350.3
+1000 V	998	<u>0L</u>	1002

*
*

900 applied - 937

1-mS MIN MAX TEST

SIGNAL APPLIED - 2.0 V 60 Hz

LEVEL	MIN	READING	MAX
MAX	2.705	<u>2.820</u>	2.951
MIN	-2.705	<u>2.864</u>	-2.951

mV DC VOLTAGE ACCURACY

INPUT	MIN	READING	MAX
350 mV	349.5	<u>350.1</u>	350.5

INST NO: 45190

INCOMING
 OUTGOING