SOUTHWEST RESEARCH INSTITUTE
CALIBRATION LABORATORY
MEMORANDUM

October 24, 2003

To: RON GREEN DIV20 T1

From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Subject: Status of Calibration Supplier

Manufacturer/Model: OHIO SEMITRONICS PC5-103D
Description: AC WATT TRANSDUCER
Serial Number: 03080279
Asset Number: 010467
Work Order Number: 444055466
Date Calibrated: September 29, 2003
Supplier: CMI, CENTERVILLE GA - A2LA - 800 525-0408
Remarks: CMI Cert # 1000157789

(✓) Supplier is on the Approved Suppliers List (ASL).

( ) Supplier is not on the Approved Suppliers List.

(✓) Calibration is ISO 17025 accredited.

( ) Calibration is not ISO 17025 accredited.

( ) There is no known supplier to meet ISO 17025 accreditation at this time.

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

Attachment(s) 2

m:\nonasl2.rpt Rev 7 Dec 01

Metrology Service

ACCREDITED
Certificate # 1297.01

Certificate of Calibration

1000157789

Customer Information

Southwest Research Institute
6220 Culebra Rd
San Antonio, TX 78238

PO #: 479882R
Reference #: SHIPPER 418008
Account #: SO1043
SO #: 40585

Instrument Identification

Instrument Id: **03080279**

Noun: AC Watt Transducer
Serial #: 03080279
Mfr: Ohio Semitronics
Model: PC5-103D
Accuracy: ± 0.5% of Full Scale
Expanded Measurement Uncertainty at K=2: ± 0.1% of Full Scale

Certification Information

Reason For Service: Calibration
Type Of Calibration: Normal
As Found Condition: In Tolerance
As Left Condition: Left As Found
Procedure: Mfr Manual :
Quality Remarks: Calibration complies with ISO/IEC 17025 & ANSI/NCSL Z540 requirements.

Technician: Larry Welch
Cal Date: 29 SEP 03
Cal Due: 29 SEP 04
Temperature: 23.0 °C
Humidity: 40.0 %

This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared to consensus standards.

Reported uncertainties and/or "test uncertainty ratios" (TUR's) are expressed as expanded uncertainty values at approximately the 95% confidence level using a coverage factor of K=2. A TUR of 4:1 is routinely observed unless otherwise noted on the Certificate. Statements of compliance, where applicable, are based on test results falling within specified limits with no reduction by the uncertainty of the measurement.

Certified Measurements, Inc.'s Quality System complies with the applicable requirements of 10CFR Part 50 Appendix B, 10CFR Part 21, ANSI/NCSL Z540-1 and ISO/IEC 17025.

The results contained herein relate only to the item calibrated. Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification.

This certificate shall not be reproduced except in full, without the written permission of Certified Measurements, Inc.

Deborah J. Nazimiec, Technical Manager

Robert S. Lamb, President

Your calibration records are available on-line at http://www.cmi-labs.com

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510 North Houston Lake Blvd.
Centerville, Georgia 31028
Tel: 478.953.5171
Fax: 478.953.2688

CERTIFIED MEASUREMENTS, INC.
Raising the Calibration Standard...

1395 South Marietta Parkway
Building 200, Suite 206
Marietta, Georgia 30067
Tel: 770.428.1901
Fax: 770.428.7331

Metrology Service

Certificate of Calibration

1000157789

✓In Tolerance ✘Out of Tolerance

Calibration Data

Range	Nominal	As Found		As Left		Min	Max
Watt transducer, output in volts dc							
20 W	2.00	2.013	✓	Left as Found		1.95	2.05
40 W	4.00	4.015	✓	Left as Found		3.95	4.05
60 W	6.00	6.009	✓	Left as Found		5.95	6.05
80 W	8.00	8.005	✓	Left as Found		7.95	8.05
100 W	10.00	9.995	✓	Left as Found		9.95	10.05

End of Datasheet

Calibration Standards

NIST Traceable #	Instrument ID#	Description	Model	Calibration Date	Date Due
1000147906	27504	Multimeter	1271	25 APR 2003	31 OCT 2003
1000151546	22956	Calibrator	811A	05 JUN 2003	30 JUN 2004

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