

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

NONCONFORMANCE REPORT

Project No. 20.06002.01.262

NCR No. 2005-16

PART 1: DESCRIPTION OF NONCONFORMANCE

Temperature/humidity transmitter (Vaisala Model HMP235, serial number: W1840037, asset number: 8768) was found to be out of tolerance during a scheduled calibration performed by the SwRI Calibration Laboratory on May 19, 2004. The transmitter was found to be out of tolerance at a temperature of 20.45 °C and at a relative humidity (RH) of 80.00 %. The transmitter has specified limits of +/- 0.2 °C and 2.0 % RH. At the 20.45 °C test point and the 80 % RH test point, the transmitter had a measurement error of 0.75 °C and -3.96 % RH.

Initiated by: James D. Prikryl Date: 04/04/2005

Action Required by: CNWRA Quality Assurance Response Due Date: 04/014/2005

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition:

Accept as is.

Basis of Disposition:

Based on an evaluation of scientific notebook entries, the transmitter has not been used in any laboratory experiments or tests since its previous scheduled calibration on May 21, 2003.

Action to Correct Nonconformance:

The transmitter was brought back into tolerance by the SwRI calibration lab. At a test point of 20.44 °C and a test point of 79.96 % RH, the transmitter had a measurement error of -0.03 °C and -0.07 % RH.

Target date for completion: 04/21/2005

Proposed by: James D. Prikryl Date: 4/4/05

PART 3: APPROVAL

Manager: Gordon Wittmeyer Date: 4/8/2005

Director of QA: R. J. Smith Date: 4/8/05

Comments/Instructions:

PART 4: CLOSE OUT

Comments:

no action necessary

Distribution:

Original-CENTER QA Records
ORIGINATOR
PRINCIPAL INVESTIGATOR
MANAGER
DIRECTOR

Verified by: R. J. Smith Date: 4/8/05

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, 78228-0510 • TEL (210) 522-5215 • FAX (210) 522-3692

To: Jim Prikryl, Div. 20/ Bldg. 57

From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Date: May. 19, 2004

Subject: Out-of-tolerance Notice

The purpose of this notice is to alert you of a condition, which may have caused erroneous measurements affecting safety or the quality of products or services your organization provides. The attached as-found readings are provided for your evaluation to determine if the instrument listed below had an impact and if further action is required.

When the as-found results are near the specification limit, +/- a margin less than the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. It is the Institute Calibration Laboratory policy that the client is made aware of this situation because the end-user is taking some of the risk that the instrument listed below may not meet the end-user measurement requirements.

Your review/evaluation should be conducted in accordance with your organizational quality policy and procedural requirements. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Manufacturer: Vaisala

Model: HMP235

Description: Humidity/ Temp Transmitter

Serial Number: W1840037

Asset Number: 8768

User ID Number: None

Last Calibration: May 21, 2003

Date Received for Service: May. 14, 2004 **Work Order Number:** 444059131

Service Requested: Scheduled calibration

Remarks: Exceeded limits. See attached data sheet.

Southwest Research Institute
Calibration Laboratory
Calibration Report

Work Order:	444059131	Mfr.	VAISALA	Technician	Mark Romero
Asset No.	008768	Model	HMP235		
Serial No.	W1840037	Type.	Temp/RH Transmitter	Cal Date.	19-May-04
Remarks:					

Function/Range	Test Point	TI Reading		Difference	+/-Limit	+/-Uncertainty	Found
% RH	% RH	mAmp	% RH	% RH	% RH	% RH	Result
0-100 Deg F	25.00	7.788	23.68	-1.33	2.0	0.5	Pass
	50.08	11.696	48.10	-1.98	2.0	0.5	Pass
	80.00	16.167	76.04	-3.96	2.0	0.5	Fail
Deg. C	Deg. C	mAmp	Deg. C	Deg. C	Deg. C	Deg. C	
20 Deg. C	20.45	7.296	21.20	0.75	0.2	0.3	Fail
END OF REPORT							



SOUTHWEST RESEARCH INSTITUTE™

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692



Certificate #

0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: JIM PRIKRYL

Manufacturer Model: VAISALA HMP235

Description: TEMPERATURE/HUMIDITY TRANSMITTER

Serial No: W1840037

Asset No: 008768

Procedure: TEMPERATURE/HUMIDITY, MAY/03

Work Order: 444059131

Date Issued: May 20, 2004

Calibration Date: May 19, 2004

**Calibration Due: May 19, 2005

Calibration Location: Bldg. 64

Environment: Temp. 76.0°F Hum. 52 %RH

*As Found: OUT OF TOLERANCE

*As Left: IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCSL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of $k=2$ to approximate a 95% confidence level. See Remarks or attached Calibration Report with the same Work Order number for calibration data.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
006404	THUNDER SCIENTIFIC	2500	HUMIDITY GENERATOR	Jun 10, 04

Approved by: Walt Hill

Metrology Group Leader

m:\a2la1.rpt Rev date 11, May 04

Measurements by: Mark Romero

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Calibration Report

Work Order:	444059131	Mfr.	VAISALA	Technician	Mark Romero
Asset No.	008768	Model	HMP235		
Serial No.	W1840037	Type.	Temp/RH Transmitter	Cal Date.	19-May-04
Remarks:					

Function/Range	Test Point	TI Reading		Difference	+/-Limit	+/-Uncertainty	Left
% RH	% RH	mAmp	% RH	% RH	% RH	% RH	Result
0-100 Deg F	25.04	8.037	25.23	0.19	2.0	0.5	Pass
	50.05	12.064	50.40	0.35	2.0	0.5	Pass
	79.96	16.783	79.89	-0.07	2.0	0.5	Pass
Deg. C	Deg. C	mAmp	Deg. C	Deg. C	Deg. C	Deg. C	
20 Deg. C	20.44	7.233	20.41	-0.03	0.2	0.3	Pass
END OF REPORT							