



What is ISO/IEC 17025 Accreditation?

*by Pam Wright
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Learning Objectives

- Using the definitions provided, you will be able to accurately describe the difference between accreditation and certification.
- Using the list of signatories to the ILAC MRA, you will be able to identify an accrediting body and their scope of accreditation.



Housekeeping

- Cell Phones
- Audience Participation



Audience Participation - WIIFM

- Developed by Christopher L. Holloway Electronics Engineer, Electromagnetics Division at NIST in Boulder, CO
- Developed because he was tired of getting “short poured” at his favorite brew pub
- Meant to be used with your standard 16 ounce U.S pint glass



What is Accreditation?

- “tion” words
- Scope of Accreditation
- Traceability
- Accreditation Body Recognition



What is Accreditation?

The "tion" words

- **Registration:**

- Procedure by which a registration body indicates relevant characteristics of a product, process or service, or particulars of a body or person, on an appropriate publicly available list (ISO/IEC Guide 2)

Or:

- Procedure used to give written assurance that a system conforms to specified requirements. Such systems include those established for the management of product, process or service quality, and environmental performance (National Technology Transfer and Advancement Act - NTTAA)

- Using ISO 9001:2008



Management System Registration

- ISO 9000 management system standard is generic
 - applies to all types of organizations
- Registration is the formal recognition of an organization's management system
 - that is defined in terms of a general scope, and
 - identifies the outputs (products/services) of the management system
- Registration does not certify or guarantee the quality of products or service for compliance with specific technical specifications



Management System Registration

- Organizations are registered to a management system standard within very broad industry or product categories, for example...



CERTIFICATE OF REGISTRATION

VELTEC LABORATORIES

12255 Universal
Taylor, MI 48180
Bill Lacey Phone: 313 946 0440

This management system meets the requirements of the ANSI/ISO/ASQ Q9001-2008 (ISO 9001:2008) standard for mechanical and chemical testing (SIC 8734) on cold rolled and hot rolled steels.

Certificate No. R-045
Valid until December 31, 2014



What is Accreditation?

The “tion” words

- **Certification:**

- Procedure by which a third party gives written assurance (certificate of conformity) that a product, process or service conforms to specified requirements (ISO/IEC Guide 2)
- Using a published scheme

**You cannot be certified to
ISO/IEC 17025**



What is accreditation?

The “tion” words

- **Accreditation**

- Procedure by which an authoritative body gives formal recognition that a body or a person is competent to carry out specific tasks (ISO/IEC Guide 2)

OR

- Procedure used to provide formal notice that a body or person is competent to carry out specific tasks (NTTAA).

- Using ISO/IEC 17025:2005



What is Accreditation?

- Formal recognition that a testing or calibration laboratory is competent to carry out specific tests or calibrations
- Accreditation is having a Management System and demonstrating competency.



What is Accreditation?

Technical Competence in Calibration –
What are we looking for?

- Ability to properly perform the calibration
- Ability to properly calculate measurement uncertainty in accordance with the GUM
- Established traceable measurement



What is Accreditation?

- Laboratories are accredited for specific tests or calibrations and for particular products and test or calibration specifications





SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

HEUSSER NEWEIGH
1400 Willow Pass Court
Concord, CA 94520-5477
mark@neweigh.com
Mark Ruefenacht Phone: 925 798 8900

CALIBRATION

Valid To: September 30, 2016

Certificate Number: 1823.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Chemical

Parameter/Equipment	Range	CMC ² (±)	Comments
pH Meters ³ –	(4, 7, 10) pH units	0.020 pH units	Standard buffer solutions
Temperature	(-10 to 110) °C	0.17 °C	Fluke 743B
Conductivity Meters ³ –	(1 to 10) µS/cm (10 to 100) µS/cm (100 to 1000) µS/cm (1000 to 10 000) µS/cm (10 000 to 200 000) µS/cm	0.44 µS/cm 1.1 µS/cm 3.9 µS/cm 50 µS/cm 300 µS/cm	Standard conductivity solutions
Temperature	(-10 to 110) °C	0.17 °C	Fluke 743B

Example Scope of Accreditation



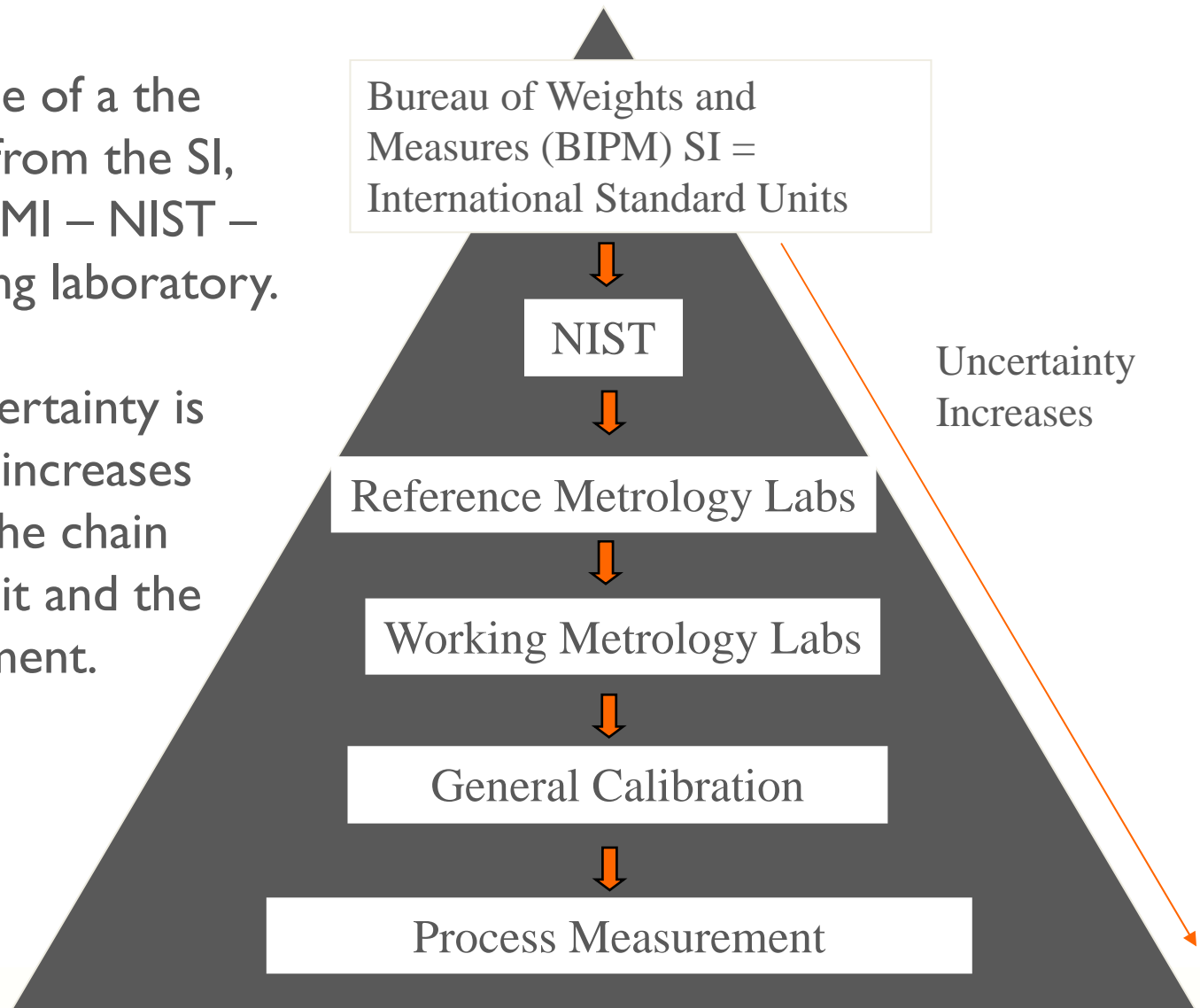
Metrological Traceability

- **Metrological Traceability** is the property of a measurement result whereby the result can be related to a reference through documented unbroken chain of calibrations, each contributing to the measurement uncertainty.



Here is an example of a the traceability chain from the SI, through the US NMI – NIST – down to the testing laboratory.

Measurement uncertainty is additive so that it increases with each link in the chain between the SI unit and the laboratory instrument.



What is Accreditation?



How would a calibration using a pickle bucket as your reference standard compare with using a mass?



Exercise #1

- **True or False?**

Certification is a procedure by which an authoritative body gives formal recognition that a body or a person is competent to carry out specific tasks.

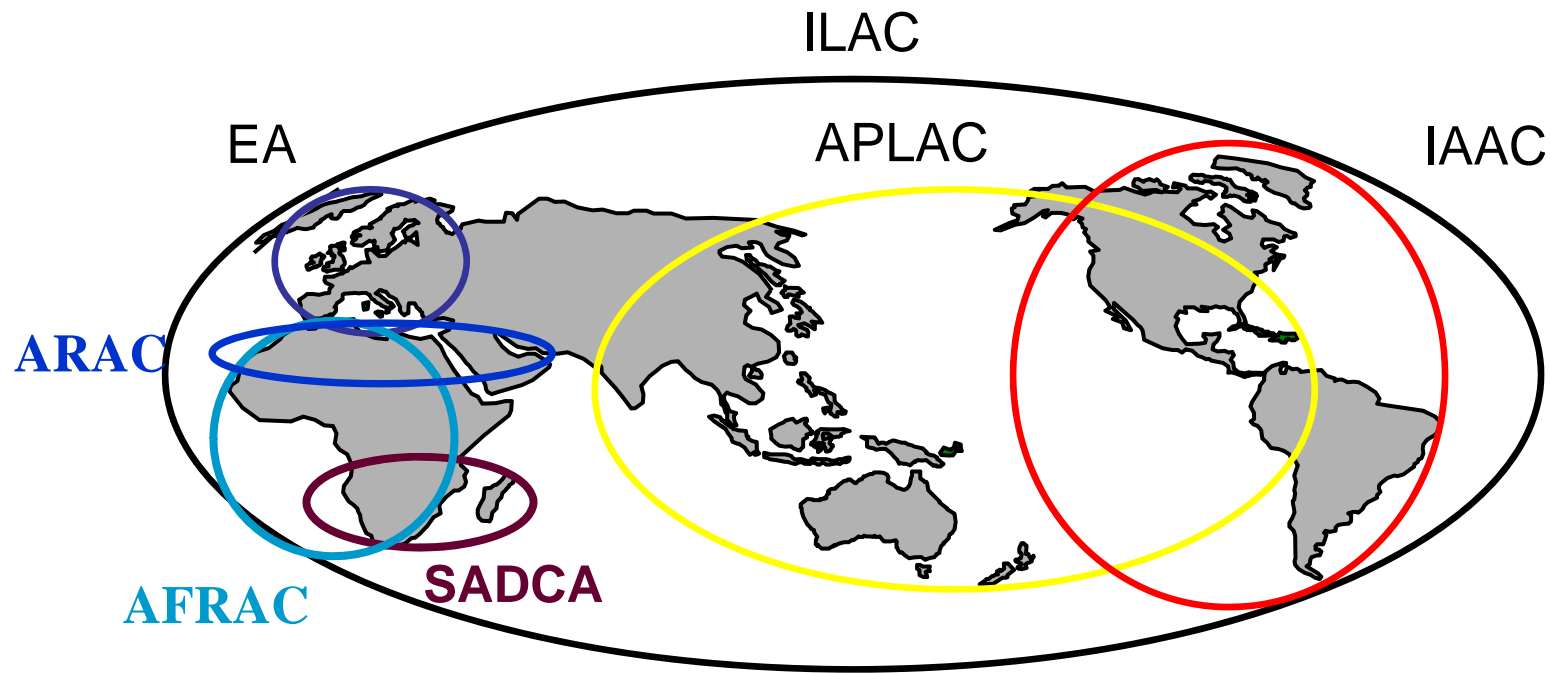
False. This is accreditation.



What is Accreditation?

- Accreditation:
 - Procedure by which an **authoritative body** gives formal recognition that a body or person is competent to carry out specific tasks (ISO/IEC Guide 2)
- What makes A2LA an authoritative body?





ILAC	International Laboratory Accreditation Cooperation
EA	European co-operation for Accreditation
APLAC	Asia Pacific Laboratory Accreditation Cooperation
IAAC	Inter-American Accreditation Cooperation
SADCA	Southern African Development Community Accreditation
AFRAC	African Regional Accreditation Cooperation
ARAC	Arab Accreditation Cooperation



Accreditation Hierarchy

International Laboratory Accreditation Cooperation (ILAC):

Establishes Standards and Requirements for Accreditation
Recognizes Regional Accreditation Groups Through An MRA Process

Regional Accreditation Groups (e.g. APLAC, IAAC):

Recognize Accreditation Bodies Through Mutual Recognition Agreements (MRA)
Peer Evaluated Using ISO/IEC 17011

Accreditation Bodies (e.g. A2LA, NVLAP, IAS):

Following ISO/IEC 17011
Accreditation Bodies Accredit Laboratories Using ISO/IEC 17025:2005

Laboratories (Testing & Calibration):

Test or Calibrate Customer Samples, Products and Materials
Following ISO/IEC 17025:2005

Customers:

Submit Products to Laboratories To Be Tested or Calibrated
Following Customer Specifications



Why Does Being Recognized Matter?

- Facilitates trade
- Being accredited allows government, procurers and consumers to have confidence in the calibration and test results provided
- Provides international recognition

Examples of specifiers that require use of accredited testing and calibration laboratories:

- ❖ Automotive industry
- ❖ Underwriter Laboratories (UL)
- ❖ US military
- ❖ US government
- ❖ Aerospace industry



In Summary

- Laboratories are accredited
 - not registered or certified
- Accreditation facilitates world trade
 - by having reciprocity of data
(See ILAC-13 Publication)
- Accreditation leads to...
 - more reliable results, and
 - more credibility for our laboratories



Exercise #2

- Partner with the person next to you
- Scenario:
Your laboratory is in the Philippines, using the “Signatories to the ILAC Mutual Recognition Arrangement” pages, identify the closest Asian AB that can accredit your laboratory for ISO 15189
(5 Minutes)



Exercise #2

- Vietnam (BoA)
- Singapore (SAC)
- Thailand (BLQS-DMAc)
- Chinese Taipei (TAF)
- New Zealand (IANZ)
- Malaysia (Standards Malaysia)
- Japan (JAB)
- Indonesia (KAN)
- India (NABL)
- China, Hong Kong (HKAS)
- China (CNAS)



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Questions?

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