Remembering William "Bill" Quigley

(written by Klaus Jaeger for the January 2005 issue of the NCSLI newsletter)

Long-time friend, colleague, fellow assessor, author, leader in metrology as well as husband and father, William Quigley, passed away unexpectedly on November 22, 2004, at the age of 70 after suffering from cancer.

Bill was born on April 29, 1934, in Cleveland, Ohio to William and Mary Colletta Quigley. He received his Bachelor of Science degree in physics from the University of Colorado and a Graduate degree in electronic engineering from the University of Alaska.


After the service years, Bill obtained employment with Hughes Missiles Systems Company and later with Raytheon Systems Company. His positions advanced from Senior Test Design Engineer to Product Assurance Engineer to Senior Scientist. In these capacities he developed techniques to reduce test content and associated calibration and maintenance support cost on the Advanced Medium Range Air to Air Missile program. Mr. Quigley designed, developed, and implemented automated calibration systems used to calibrate optical and microwave test equipment. He developed automatic test equipment
software and hardware.

In 1997, Bill retired from Raytheon Systems Company and started his independent consultant business. In this capacity, he made use of his expertise in mechanical, dimensional, physical, and electrical/electronics metrology to provide consultations in these areas in addition to analog design engineering. He also served on the Board of Advisors for Tegam, Inc.

Bill also entered, in the year 2000, the ranks of assessor and lead assessor for the American Association for Laboratory Accreditation (A2LA). He was well respected by his fellow assessors, by the A2LA staff, and by the companies that were assessed for accreditation to ISO 17025. In the short span from 2000 until 2004, Bill was involved in over 145 assessments.

During all his years in private industry, Bill was deeply involved in and with activities regarding NCSLI. He served as the president in 1998 and was an active member of the 174 Writing Committee. While a member of that committee, Bill played an integral part in getting ANSI/NCSL Z540-1-1994 published and, in addition, worked diligently on the associated handbook for that standard. For over 20 years he participated in committee activities, presented papers, and participated as panel member. He never tired and was always helpful with realistic recommendations, suggestions, and ideas. Bill always took the bull by the horn and got things done.

Bill was married to Trudy Hansen in 1958. He is survived by his wife Trudy, his three children Kelly, Kimberly, and James, five grandchildren and one great grandson.

Bill is fondly remembered for his quick comprehension, calm demeanor, and attention to detail, correctness, and inter-personal communication skills. Bill was a gentleman with the highest ethical standards. He instilled pride in ownership in all of us that worked on common projects with him. Bill will be remembered as a metrologist with an incredible knowledge of metrology, an insatiable desire to learn more, and an unbelievable reservoir of energy to help others. Bill, we shall miss you.

A2LA 2005 Conclave

A2LA will be holding its 2005 Conclave March 8 – 14, 2005, at the Sheraton Columbia in Columbia, MD. Invitations were sent out in late December of 2004. Meetings on March 12 and 13 are open to interested parties and A2LA welcomes laboratory representatives. If you would like to attend the Conclave and/or participate in one of the advisory committees, or if you should have received an invitation but have not, please contact A2LA or your Laboratory Services Officer.

You say Tobago ...I say Tobägo

To a native of Trinidad and Tobago, "jump high, jump low" is similar to the American saying of "six of one, half dozen of another." Around the world, figures of speech establish a shared understanding of concepts. The same can be said about standards (as in the case of ISO/IEC 17025) and the way in which accreditation fosters the understanding and recognition of laboratory competence across boundaries of states, nations, regional economies, and industries.

This fall A2LA, had the opportunity of hosting Ms. Giselle Guevara, the manager of the Laboratory Accreditation Scheme for the Trinidad and Tobago Bureau of Standards (TTBS). The TTBS is in its infancy in laboratory accreditation, expecting to accredit its first half-dozen laboratories in the upcoming months.

Roger Brauninger, an A2LA Senior Laboratory Services Officer, hosted Ms. Guevara at A2LA headquarters, describing to her the full gambit of A2LA's procedures and policies from processing new applications to issuing accreditation certificates. Additional topics included monitoring proficiency testing results and processing the annual reviews for reaffirming accreditation.

Ms. Guevara also was provided the opportunity to witness an A2LA renewal assessment conducted at Lancaster Laboratories, Inc. in Lancaster, PA. While on-site, Ms. Guevara reviewed the assessment team assessing the quality system records as well as the assessment of the testing activities. A2LA would like
to thank Lancaster Laboratories for enriching this training event.

It can be said that both accrediting bodies, A2LA and TTBS, gained from this experience through the exchange of ideas. To our surprise, when Ms. Guevara recounted some of her experiences to us, she offered up an idiom that both economies share—"every Tom, Dick and Harry..." It truly is a small world.

A2LA's 10,000th Assessment

A2LA has reached a milestone with the completion of its 10,000th assessment. The assessment was recently conducted at a calibration laboratory, CEAST U.S.A., Inc., located in Charlotte, North Carolina. Mr. Keith Berry, who is the Quality Manager of CEAST U.S.A., commented that his recent assessment was, “a very professional and comprehensive audit on both the administrative and technical aspects of ISO /IEC 17025” and that, “the A2LA personnel involved showed a genuine desire to ensure our laboratory and on-site calibration services remained accredited.”

Rockwell B Blocks from NIST

The National Institute of Standards and Technology (NIST) will soon be releasing reference standard blocks for the middle and high ranges of the Rockwell B scale. The blocks are expected to be available early in 2005. Blocks at the low end of the scale are proving to have high uncertainty values, and NIST is still trying to determine how to approach this - release blocks with the high uncertainty or conduct further research. NIST is planning to calibrate reference blocks in the 15N and 30N scales this year although a release date has not yet been determined. Availability and ordering information is available at: http://ts.nist.gov/ts/htdocs/230/232/232.htm

ILAC Cape Town - 2004

The International Laboratory Accreditation Cooperation (ILAC) annual general meeting and associated committee meetings were held in Cape Town, South Africa, 5-12 October. This was the fourth occasion where ILAC met jointly with the International Accreditation Forum (IAF), the international organization for accreditation of certification bodies.

The meetings involved over 350 people from more than 70 economies. A2LA was represented by Peter Unger, A2LA President, Roxanne Robinson, A2LA Vice President, and Daren Valentine, Communications Manager.

Highlights of the meetings include:

- The Strategic Plan was approved after a four-year effort to focus the work and priorities for action;
- Five new signatory accreditation bodies were added to the MRA, from Malaysia, Indonesia, Slovenia, Greece, and Romania bringing the total to 46 signatories from 37 economies;
- Accreditation of reference materials producers against harmonized criteria of ISO Guide 34 and ISO/IEC 17025 was endorsed;
- MRA signatory accreditation bodies shall comply with the requirements of ISO/IEC 17011:2004, by 1 January 2006;
- MRA peer evaluation requirements and procedures were updated;
- A group or forum for proficiency testing will be established within the ILAC structure;
- A memorandum of understanding was signed with the International Electro-technical Commission (IEC) formalizing the use of joint assessments;
- A two-year transition period for the implementation of the amended ISO/IEC 17025:2005 standard, once it is published (now expected by April 2005), was adopted;
- A Memorandum of Understanding was signed with the United Nations Industrial Development
Organization (UNIDO) to coordinate assistance to countries/regions that do not have internationally recognized accreditation infrastructures.

The following officers were elected to the ILAC Executive Committee for 2005-2006:

Chair: Daniel Pierre (COFRAC, France)
Vice Chair: Peter Unger (A2LA, USA)
Arrangement Committee: Orna Dreazen (ISRAC, Israel)
Accreditation Committee: Merih Malmqvist (SWEDAC, Sweden)
Marketing & Communications Committee: Graham Talbot (UKAS, United Kingdom)
Joint Development Support Committee: Maribel Lopez (EMA, Mexico)
Arrangement Management Committee: Llew Richards (IANZ, New Zealand)
Unaffiliated Representative: Orna Dreazen (ISRAC, Israel)
Laboratory Committee: Anthony Anderson (NCSLI, USA)

A2LA Exhibits at 2004 Automotive Testing Expo North America

The second Automotive Testing Expo North America was held at the Novi Convention Center in Novi, MI from October 27 to 29, 2004. A2LA exhibited at the Testing Expo for the 2nd straight year with Trace McInturff and Steve Medellin representing the Association. The show attracted 320 exhibitors and nearly 6000 attendees. Many of the exhibitors were A2LA accredited testing or calibration laboratories (follow links for pictures of the exhibitors), including:

ACT Laboratories Inc.
Atlas
Bodycote
Bruek & Kjaer
Cincinnati Sub-Zero
Dayton T. Brown Inc.
Defiance Testing & Engineering
Detroit Testing Laboratory Inc.
Dynamic Technology Inc.
ESSC
EST Testing Solutions
ETS-Lindgren
GHSP Testing Laboratories
Green Associates Inc
IMR Test Labs
Interface Inc.
Johnson Matthey
MGA Research Corp.
MTS Systems
PCB Piezotronics
Q-Panel (Q-Labs)
Radiometrics Midwest Corporation
RCO Technologies LLC
RS Technologies Ltd
Sherry Laboratories
Smithers Scientific Services Inc.
Southwest Research Institute
Stork Materials Technology
Sverdrup Technology Inc
Sypris Test & Measurement
Testing Engineers and Consultants Inc.
Trialon Corporation
Vehicle Research and Development Inc.
Visteon

According to the show organizers, this year's event was approximately 70 percent larger than last year. Once again we considered it to be a very successful event.

If you have any questions or concerns regarding A2LA accreditation, please contact Trace McInturff or Steve Medellin at A2LA Headquarters.
APLAC-2004

The annual general meeting of the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and its associated committee meetings were held in Hanoi, Vietnam, on December 5 through 10, 2004. The meetings involved about 80 people from 18 economies. A2LA President Peter Unger chaired his final APLAC General Assembly meeting.

A few of the items of business from the meeting include: the move toward incorporation of APLAC was endorsed; three signatory accreditation bodies expanded their scopes of recognition to include calibration under the MRA - DSM Malaysia, KAN Indonesia, and BOA Vietnam (bringing the total to 20 signatories from 16 economies); a workshop to develop an MRA for the accreditation of reference materials producers was endorsed; and MRA peer evaluation training on ISO/IEC 17011 was scheduled for April 2005.

The following officers were elected to the APLAC Board of Management for 2005:

Chair: Tony Russell (NATA, Australia)
Officers: Jeffrey Horlick (NVLAP, USA)
          Terence S S Chan (HKAS, Hong Kong)
          Katuo Seta, ( IAJapan, Japan)
          Chang Kwei Fern (SAC, Singapore)
          Wei Hao (CNAL, China)
MRA Council Chair: Terence Chan (HKAS, Hong Kong)
Immediate Past Chair: Peter Unger (A2LA, USA)

The following committee chairs were also elected:

Technical Committee: Yoshimoto Uematsu (JNLA, Japan)
Public Information Committee: Ian Roy (IANZ, New Zealand)
Proficiency Testing Committee: Phil Briggs (NATA, Australia)
Training Committee: Wei Hao (CNAL, China)
Nominations Committee: Chuck Ramani (IAS, USA)

APLAC MRA Council

The APLAC MRA Council met twice last year (Columbia, MD in April and Hanoi in December). The list of signatories to the APLAC multi-lateral Mutual Recognition Arrangement (MRA) is provided below:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Acronym</th>
<th>Area/s Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Association of Testing Authorities, Australia</td>
<td>NATA</td>
<td>Testing/Calibration; Inspection</td>
</tr>
<tr>
<td>Standards Council of Canada/Conseil Canadien Des Normes</td>
<td>SCC</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>China National Accreditation Board for Laboratories</td>
<td>CNAL</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>Hong Kong Accreditation Service</td>
<td>HKAS</td>
<td>Testing/Calibration; Inspection</td>
</tr>
<tr>
<td>National Accreditation Board for Testing and Calibration Laboratories, India</td>
<td>NABL</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>Komite Akreditasi Nasional, Indonesia</td>
<td>KAN</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>Japan Accreditation Board for Conformity Assessment</td>
<td>JAB</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>International Accreditation Japan (IAJapan)</td>
<td>IAJapan</td>
<td>JCSS; JNLA; ASNITE Testing; ASNITE Calibration</td>
</tr>
<tr>
<td>Voluntary EMC Laboratory Accreditation Center, Japan</td>
<td>VLAC</td>
<td>Testing</td>
</tr>
<tr>
<td>Korea Laboratory Accreditation Scheme</td>
<td>KOLAS</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>Department of Standards, Malaysia</td>
<td>DSM</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>Accreditation Body</td>
<td>Abbreviation</td>
<td>Services</td>
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<tr>
<td>International Accreditation New Zealand</td>
<td>IANZ</td>
<td>Testing/Calibration;</td>
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<td></td>
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<td>Inspection</td>
</tr>
<tr>
<td>Singapore Accreditation Council</td>
<td>SAC</td>
<td>Testing/Calibration;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inspection</td>
</tr>
<tr>
<td>Chinese National Laboratory Accreditation</td>
<td>CNLA</td>
<td>Testing/Calibration;</td>
</tr>
<tr>
<td>Thai Laboratory Accreditation Scheme</td>
<td>TLAS</td>
<td>Testing/Calibration;</td>
</tr>
<tr>
<td>Department of Medical Sciences, Thailand</td>
<td>DMSc</td>
<td>Testing</td>
</tr>
<tr>
<td>American Association for Laboratory Accreditation, USA</td>
<td>A2LA</td>
<td>Testing/Calibration</td>
</tr>
<tr>
<td>International Accreditation Service, Inc., USA</td>
<td>IAS</td>
<td>Testing; Inspection</td>
</tr>
<tr>
<td>National Voluntary Laboratory Accreditation Program, USA</td>
<td>NVLAP</td>
<td>Testing/Calibration;</td>
</tr>
<tr>
<td>Bureau of Accreditation, Vietnam</td>
<td>BoA</td>
<td>Testing/Calibration;</td>
</tr>
</tbody>
</table>

**APLAC and Regulators**

APLAC sponsored and funded, on behalf of the International Laboratory Accreditation Cooperation (ILAC), a most successful one-day forum on accreditation issues for invited US regulators in Columbia, MD, USA on April 20, 2004. It hopes to hold such forums regularly in the future with the support of NIST and NACLA.

**APEC Funded Projects**

The Asia Pacific Economic Cooperation (APEC) has funded the first phases of several projects. One is a three-year survey of APLAC members to identify 6 calibration and 15 proficiency testing programs. Also funded, a five-day training course on ISO/IEC Guide 43 on proficiency testing programs held in Sydney, Australia in February 2004.

**New and Updated Documents**

- On November 15, 2004, A2LA issued a revision to its [A2LA Policy on Measurement Traceability](http://www.a2la.org/newsletters/Feb2005/A2LANews_Feb2005.cfm) to update the "Concept of Traceability" and also to update T1, T4, T5 and T7 for added clarification. This revision was implemented immediately. The full text assessor checklists for ISO/IEC 17025, for the combined animal drug testing requirements and ISO/IEC 17025, for the combined environmental program requirements and ISO/IEC 17025, and for the combined AOAC requirements and ISO/IEC 17025 have been revised to include the *Traceability Policy* revisions in the appropriate appendices.

- On November 15, 2004, A2LA issued a revision to the Laboratory Reference to A2LA Accredited Status – A2LA Advertising Policy to clarify use of the "A2LA Accredited" mark versus the "A2LA" logo. This revision also addressed requirements for use of the combined "ILAC-MRA – A2LA-Accredited" mark. This revision was implemented immediately. The full text assessor checklists for ISO/IEC 17025, for the combined animal drug testing requirements and ISO/IEC 17025, for the combined environmental program requirements and ISO/IEC 17025, and for the combined AOAC requirements and ISO/IEC 17025 have been revised to include the Advertising Policy revisions in the appropriate appendices.

- On January 7, 2005, A2LA revised the "Instructions: Responding to the Assessor Deficiency Report" to clarify the procedure for requesting an exception to the *Traceability Policy* and also to outline A2LA’s new policy for allowing assessors to document "observations" within their report. The document is available on the A2LA website.

- On January 10, 2005, A2LA issued a revision to the *Traceability Policy* to update the list of mutual recognition arrangements of which we are a signatory. The document is available on the A2LA website.

- On January 11, 2005, A2LA issued a revision to the full text ISO/IEC 17025 assessor checklist to update shading in several sections that require a document reference. Likewise, the combined ISO/IEC 17025-AOAC food testing, the combined ISO/IEC 17025-animal drug testing, and the combined ISO/IEC 17025-environmental testing checklists have been revised to update these shaded areas.
Advertising Policy Revision and Combined “ILAC-MRA–A2LA-Accredited” Mark

A2LA-accredited laboratories are strongly encouraged to promote their A2LA accreditation by using the “A2LA Accredited” mark. However, there are requirements pertaining to the way in which this may be promoted. A2LA has issued its Laboratory Reference to A2LA Accredited Status – A2LA Advertising Policy document to assist laboratories in developing clear and appropriate means of utilizing the “A2LA Accredited” mark.

Over the years, there has arisen some confusion over the distinction between the “A2LA Accredited” mark:

![Accredited Logo]

and the “A2LA” logo:

![A2LA Logo]

In November 2004, the A2LA Advertising Policy was revised to clarify the original intent that laboratories use only the “A2LA Accredited” mark. Use of the “A2LA” logo is restricted to use by A2LA itself, and laboratories are no longer able to use the “A2LA” logo and simply include a statement of accreditation with it.

For example, below is an appropriate reference to a laboratory’s accreditation status:

![A2LA Accredited Certificate]

CERTIFICATE #9999.99

However, the following is not appropriate:

![A2LA Accredited Laboratory Certificate]

ACCREDITED LABORATORY
CERTIFICATE #9999.99

The November 2004 revision to the Advertising Policy is already being implemented and so laboratories are encouraged to review their current use of the “A2LA Accredited” mark and/or “A2LA” logo to ensure it is in keeping with the revised policy.

In addition, ILAC has issued rules for use of the ILAC MRA mark conjoined to the A2LA-accredited mark:

![ILAC-MRA A2LA Accredited Mark]

Use of the combined mark will serve to emphasize the fact that A2LA accreditation is a world-recognized accreditation, a fact that will facilitate the use and acceptance of test and calibration results across international borders. The combined mark may only be used in conjunction with a laboratory’s A2LA...
Certificate number when used on test reports or calibration certificates, similar to the requirement above when using only the "A2LA Accredited" mark.

All requirements of the Advertising Policy apply to use of this combined mark. Additionally, laboratories must submit to A2LA their proposed use of the mark and obtain written approval from A2LA before beginning actual use of the combined mark.

As always, A2LA staff is happy to review any proposed reference to A2LA on advertisements, letterhead, reports, etc. for compliance with the Advertising Policy. Please feel free to contact your Laboratory Services Officer or Teresa Barnett, A2LA Quality Manager, with any questions concerning the Advertising Policy.

Instrument Resolution and Measurement Uncertainty

In determining the measurement uncertainty of a test, particularly dimensional testing, it is important to consider the resolution of the equipment in the uncertainty budget. Not doing so can lead to an underestimate of the uncertainty related to the testing. For example, an uncertainty budget using the standard components, i.e. repeatability, calibration certificates, etc, without considering the resolution of the measuring device may provide an uncertainty value well below the ability of the device to report.

The simplest example is a measuring device with a digital readout, for example, a linear measuring device with a resolution of 0.001 inches. A repeatability study may show that ten successive measurements yield the same result. This does not mean there is no variability. It is just below the ability of the measuring device to detect. Nor does it mean that the measurement uncertainty is zero. The measurement uncertainty of the calibration of the measuring device should also be included in the budget when available. This is usually found on the calibration certificate and will be discussed shortly.

To include the resolution in the uncertainty budget divide the resolution by $\frac{2}{3}\sqrt{3}$ or 3.46. Two because the measurement may be plus or minus half of the value of the last digit before the display will jump to the next value and $\sqrt{3}$ because the distribution of values in the plus or minus one half range is assumed to be randomly or rectangularly distributed. Consider a 2-inch gage block used with the linear measurement device. A measurement anywhere between 1.9995 and 2.0004 will be displayed as 2.000, and there is no way to know how the measurements are scattered within that range, so a random distribution is assumed. In this case, the uncertainty due to the resolution would be 0.00029 inches. Expanding this to a $k=2$ coverage factor yields an uncertainty of 0.00058 inches or about 60% of the resolution. In this example, the resolution is the largest contributing factor to the uncertainty. This will not always be the case, but the resolution should always be considered in determining measurement uncertainty. If it is found that the resolution has a minimal effect on the overall uncertainty, it may be ignored in calculating the final, combined, uncertainty. As a rule of thumb, the best uncertainty stated for any test should not be less than 0.6 times the resolution.

One final word of caution - calibration providers may or may not include the resolution of the unit under test (UUT) in reporting uncertainty on calibration certificates. As in the example above, a calibration provider may have a best measurement uncertainty for linear calibration of 0.00001 inches and come up with no standard deviation in the actual calibration of the device. If the calibration provider does not include the resolution of the UUT in the uncertainty stated on the calibration certificate, the uncertainty of the calibration may be unusually low and resolution must be included in any uncertainty budgets for testing. If the resolution of the device is taken into account in the calibration certificate, do not include it again or its contribution will be doubled. Be sure to discuss this with the calibration provider if it may be an issue. Some calibration providers are starting to include statements regarding the resolution of the UUT in reported calibration uncertainties.

Where do A2LA's extra requirements come from?

Two of the most frequently asked questions of laboratory services staff at A2LA are: who gives A2LA the authority to accredit testing and calibration labs and, where do the traceability and proficiency testing requirements come from?
The answer to both questions is the **International Laboratory Accreditation Cooperation**, commonly referred to as ILAC. The **ILAC Mutual Recognition Arrangement (MRA)** provides significant technical underpinning to international trade. The key to the MRA is the developing global network of accredited testing and calibration laboratories that are assessed and recognized as being competent by ILAC signatory accreditation bodies. The signatories have, in turn, been peer-reviewed and shown to meet ILAC's criteria for competence. Governments take advantage of it to further develop or enhance trade agreements. The ultimate aim is increased use and acceptance by industry and government of the results from accredited laboratories around the world. In this way the free-trade goal of “a product tested once and accepted everywhere” can be realized.

Achieving signatory status is based on the results of an intensive evaluation of each accreditation body carried out in accordance with the relevant rules and procedures contained in several ILAC publications.

The evaluation of an accreditation body to establish its qualifications to be a signatory involves a team of peers (generally senior staff of experienced accreditation bodies). Evaluations include time spent at the headquarters office of the applicant body to determine compliance with ISO/IEC Guide 58, *Calibration & Testing Laboratory Accreditation Systems – General Requirements for Operation and Recognition* (soon to be replaced by ISO/IEC 17011). Additionally, the evaluators witness the performance of the applicant’s assessors during actual assessments to determine if there is sufficient depth of examination to determine competence.

Each accreditation body signatory to the MRA agrees to: abide by the terms and conditions of the MRA and by the ILAC evaluation procedures; maintain conformance with ISO/IEC Guide 58, related ILAC guidance documents, and a few, but important, supplementary requirements; and ensure that all accredited laboratories comply with ISO/IEC 17025 and related ILAC guidance documents.

One of these ILAC requirements documents is the **ILAC MRA (ILAC P1)**. ILAC:P1 contains everything from the “Objectives of and Criteria for Evaluations” through “Re-evaluations.” Sandwiched in the middle is Section 5.3 – “Proficiency Testing Activity.” This section notes, “proficiency testing is one of the important tools used by laboratories and Accreditation Bodies for monitoring test and calibration results and for verifying the effectiveness of the accreditation process.” The document further specifies proficiency testing requirements and states that, “One activity prior to gaining accreditation and one activity relating to each major sub-area of major disciplines of a laboratory’s scope of accreditation at least every four years is recommended.”

The A2LA proficiency testing requirements were created in order to meet these requirements.

Another pertinent ILAC requirements document is the **ILAC Policy on the Traceability of Measurement Results (ILAC P10)**. The policy states, “ILAC member bodies agree that the following policy on traceability of measurement results be adopted by the regional bodies and by ILAC Member Bodies.” It further adds, “Laboratories accredited by ILAC Member Bodies shall be able to demonstrate that calibration of critical equipment, and hence the measurement results generated by that equipment, relevant to their scopes of accreditation, are traceable to the International System of Units (SI units).”

This is accomplished internationally by requiring calibration laboratories be ISO/IEC 17025 accredited by a peer-evaluated and recognized accreditation body. The **A2LA Policy on Measurement Traceability** was created in order to meet these requirements.

So, while it may appear at first that A2LA is creating additional requirements beyond ISO/IEC 17025 for testing and calibration laboratories, A2LA has implemented these additional requirements in order to maintain our signatory status with our mutual recognition arrangements.

**Please do not hesitate to contact A2LA if you have further questions regarding these issues.**

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**Decision to Withdraw from the NACLA MRA**

The A2LA Board of Directors decided to end A2LA’s signatory status within the current National Cooperation for Laboratory Accreditation (NACLA) Mutual Recognition Arrangement (MRA) as of December 31, 2004. Recent events regretfully necessitated this decision. These events include NACLA’s disappointing lack of enforcement of the NACLA MRA obligations, such that it achieves the purposes and goals for which MRAs are established around the world.

One of A2LA’s fundamental goals is to increase the acceptance of accredited laboratory data to facilitate trade. The internationally recognized means of achieving this goal is through the establishment of MRAs.
with other accreditation bodies, both domestic and abroad - MRAs that promote the concept of "one test accepted everywhere, one accreditation accepted everywhere." (MRAs are signed after accreditation bodies have been rigorously peer evaluated to ensure that they are performing competently. The MRA evaluation process also serves to establish confidence between the accreditation bodies.) When NACLA was formed, this was the main goal. NACLA would reduce the need for redundant accreditations of laboratories in the United States in accordance with the Congressional policy of the National Technology Transfer and Advancement Act to reduce complexity and duplication. An excerpt from the *NACLA MRA* (December 2003) states the following:

The NACLA MRA signatories for testing and calibration shall:

ii) recognize the operation of the other signatory accreditation bodies for testing and calibration as having met the technical requirements for competence set forth in this Arrangement. On this basis, each signatory accepts the test reports and calibration certificates issued by signatory-accredited calibration and testing laboratories;

iii) acknowledge the calibration and testing laboratories accredited by the other signatories as having met the technical requirements for competence set forth in this Arrangement. In response to inquiries, each signatory promotes this MRA by recommending to users of laboratory services the acceptance of test reports and calibration certificates from laboratories accredited by NACLA signatories;

However, an MRA that does not support the basic principle that the accreditations issued by all signatories represent equivalent outcomes and the test or calibration data produced by each signatory’s accredited laboratories should be promoted as such by all MRA signatories does not support this fundamental goal. As such, A2LA cannot in good conscience continue to participate in such an MRA.

A2LA shall continue to encourage and work toward a viable system of MRAs among domestic accreditation bodies. As such, A2LA will continue membership as a stakeholder within NACLA, and we plan to continue participation on the NACLA Recognition Committee in hopes of restoring the original aim of NACLA. A2LA shall always support and assist efforts to reduce or eliminate the need for redundant, duplicative accreditations. By continuing our membership within NACLA, we hope to see this original aim realized in the United States.

We also expect to see NACLA fully embrace the obligations of the MRAs. NACLA is a stakeholder member of ILAC. Though membership does not convey the same status as being an ILAC signatory, all ILAC members must agree to uphold the fundamental obligations of the *ILAC MRA* in the same way that ILAC signatories do. Therefore, any domestic government or industry recognitions that A2LA held when we were a NACLA signatory will still be enforced through NACLA’s recognition of the *ILAC MRA*. A current list of government or industry recognitions held by A2LA is given in the table below.

In the meantime, the regional international MRAs of APLAC (Asia-Pacific), EA (European), and IAAC (Inter-American) within which US domestic accreditation bodies can participate can serve the role of reducing redundant accreditations. We are a signatory to these MRAs which are a prime vehicle for achieving this goal and facilitating domestic and international trade by promoting "one test accepted everywhere, one accreditation accepted everywhere."

A2LA remains a signatory to all other MRAs, including ILAC (global), EA, APLAC, and IAAC. A2LA made very sure that our international MRAs would support our accredited laboratories and that the acceptance of our laboratories’ accredited test and calibration data by regulators and specifiers would in no way be threatened by our withdrawal from NACLA. We hope that the graphic below clarifies A2LA’s standing within the international and domestic MRA schemes.

A2LA remains committed to relieving our accredited laboratories of the burden of duplicative accreditations, and we support any positive steps toward the achievement of this goal. We fully support and will abide by the obligations of the MRAs of which we are a signatory. To this point, A2LA is recognizing the test reports and calibration certificates produced by the Laboratory Accreditation Bureau LLC (L-A-B)'s accredited laboratories whose testing or calibration work falls under L-A-B’s *NACLA Scope of Recognition*. A2LA has the necessary confidence in the competence of L-A-B’s accreditation for the programs on the NACLA Scope of Recognition. Because of this confidence, A2LA is recognizing L-A-B even though A2LA is no longer a NACLA Signatory. A2LA and L-A-B intend to sign a formal bilateral recognition agreement in the very near future. Additionally, A2LA is presently working to establish bilateral recognition agreements with the other NACLA signatories who support the goals of the MRA.
Figure 1

U.S. Laboratory Accreditation Bodies
International and Domestic Recognition

INTERNATIONAL RECOGNITION

International Laboratory Accreditation Cooperation (ILAC)

**Full Member**

Asia Pacific Laboratory Accreditation Cooperation (AFLAC)
A2LA TC
NVLAP TC
IAS T

see www.aplac.org for complete list of signatories

**Full Member**

European Cooperation for Accreditation (EA)
A2LA TC

see www.european-accreditation.org for complete list of signatories

InterAmerican Accreditation Cooperation (IAAC)
A2LA TC

see www.iaac-accreditation.org for complete list of signatories

DOMESTIC RECOGNITION

***Stakeholder Member***

National Cooperation for Laboratory Accreditation (NACLA)

NVLAP TC
IAS T
AIHA T
LAB TC
PRI T
FQS-I T

see www.nadla.net for complete scopes of recognition

* T - Testing
** C - Calibration

** Full members of ILAC are required to recognize the accreditations granted by other full members.

***Stakeholder members of ILAC are required to recognize the accreditations granted by full members.

Figure 2

A2LA Domestic Recognitions

**U.S. Federal**

Environmental Protection Agency's (EPA) Office of Pollution Prevention and Toxics (OPPT)
U.S. Federal Aviation Administration (FAA)
U.S. Federal Communications Commission (FCC)
Naval Sea Systems Command (NAVSEA)
National Institute of Standards and Technology (NIST)

**States**

State of Florida Building Commission
Kentucky statute KRS 224.60-130(2)(a), the Office of the Petroleum Storage Tank Environmental Assurance Fund
New Mexico Environment Department
State of Washington
Wyoming Department of Environmental Quality, Water Quality Division (WDEQ/WQD)

Storage Tank Program
Mutual Recognition Arrangement Partners and Their Scopes of Recognition

Every laboratory that is accredited by A2LA is issued a Scope of Accreditation. This document outlines the specific tests and/or calibrations for which the laboratory is accredited. The Scope may be comprehensive and include every test and/or calibration that the laboratory offers, or – for various reasons – only a subset of the lab's full capabilities may be accredited. Either way, any customer in need of an accredited test/calibration is urged to consult a laboratory’s Scope of Accreditation to be sure that it includes the work in question.

Similarly, accreditation bodies (ABs) recognized through various mutual recognition arrangements (MRAs) are issued Scopes of Recognition. An AB may offer accreditation in a wide range of areas and fields, but its recognition through a specific MRA may be limited only to a small subset of its capabilities. For example, A2LA offers accreditation of laboratories (both testing and calibration), accreditation of proficiency testing providers (PTPs), accreditation of reference material producers (RMPs) and accreditation of inspection bodies (IBs). A2LA is also a signatory to the EA, ILAC, APLAC and IAAC MRAs. Each of these MRAs has issued to A2LA a Scope of Recognition which outlines those aspects of A2LA’s operations that were included in the peer evaluation process and which were found to be equivalent to the operations of other signatory ABs. Within all of these MRAs, A2LA’s Scope of Recognition includes accreditation of testing and calibration laboratories in all fields of testing and calibration for which A2LA offers accreditation. Accreditation of PTPs, RMPs and IBs is still relatively new for most accreditation bodies and so MRAs have not been established for any but IB accreditation, which A2LA hopes to join in the future. As a result, A2LA’s accreditation of PTPs, RMPs and IBs is not included in our Scope of Recognition for the various MRAs of which we are a signatory.

It is important for our accredited laboratories to understand the significance of the Scope of Recognition issued to MRA signatory accreditation bodies, particularly with respect to compliance with the A2LA traceability policy. The traceability policy requires that calibrations be performed by a calibration laboratory accredited by an accreditation body that is a signatory with A2LA to one of the MRAs noted above. However, an accreditation body can be a signatory to one of these MRAs but still not be acceptable for meeting the traceability policy if its Scope of Recognition through the MRA does not include accreditation of calibration laboratories and, more specifically, accreditation of calibration laboratories for the specific parameters in question. In other words, there are accreditation bodies that are signatories to one or more of these MRAs but their Scope of Recognition is limited to accreditation of testing laboratories only. A calibration laboratory accredited by such an accreditation body would, therefore, not be acceptable for the purpose of meeting the A2LA traceability policy.

The A2LA website includes a link to the websites for each of our current MRAs – ILAC, EA, APLAC and IAAC. The websites for each of these MRAs, in turn, includes a section for each signatory accreditation body, outlining the Scope of Recognition for each AB. These Scopes of Recognition should be consulted if there is any question as to whether or not an AB’s accreditations will be acceptable under the traceability policy.

As always, please do not hesitate to contact any member of A2LA management or Laboratory Services if you have any questions regarding MRA Scopes of Recognition.
L-A-B NACLA Recognition

The American Association for Laboratory Accreditation (A2LA) congratulates the Laboratory Accreditation Bureau (L-A-B) for its achievement of recognition status as a signatory to the National Cooperation for Laboratory Accreditation (NACLA) Mutual Recognition Arrangement (MRA). The Scope of Recognition of L-A-B is limited to the following:

For Testing –
- Mechanical Testing including environmental simulation such as CASS, salt spray, vibration, shock, durability
- Dimensional Measurement including CMMs

For Calibration –
- Mass – Scales, Balances
- Pressure
- Torque
- Force
- Hardness
- Length

For A2LA accredited laboratories utilizing an L-A-B accredited laboratory to meet the requirements of the A2LA traceability policy, recognition for those laboratories providing accredited work within this Scope of Recognition is effective immediately. However, only calibration certificates and/or test reports issued after July 1, 2004 will be considered under this recognition. This limited recognition is extended until further notice.

Laboratories accredited by L-A-B for areas outside of its NACLA Scope of Recognition are not recognized by A2LA with regard to meeting the requirements of traceability. Further consideration will be made after future evaluations of the L-A-B program in additional fields take place.

If you have any questions regarding A2LA acceptability of an L-A-B accredited laboratory with relation to meeting the A2LA policy on traceability, please do not hesitate to contact us at 301 644 3248.

The Importance of Mutual Recognition Arrangements (MRA) for Laboratories with more than One Accreditation

There are 3 United States accrediting bodies that are full members of the International Laboratory Accreditation Cooperation (ILAC): American Association for Laboratory Accreditation (A2LA), National Voluntary Laboratory Accreditation Program (NVLAP-NIST), and International Accreditation Service (IAS). This membership means that these 3 accreditation bodies have been evaluated to ISO/IEC Guide 58 and additional requirements by ILAC. The evaluation to Guide 58 is conducted by an international group of peers that ensures a consistency among accreditation bodies in assessing laboratories to ISO/IEC 17025-1999. The ILAC approval signifies that the above listed members have gone through rigorous evaluation and have proven themselves competent to assess laboratories. A2LA can then trust that the laboratories accredited through NVLAP-NIST, IAS, and other ILAC international accrediting bodies (COFRAC, SCC, etc.) uphold the same standards required by ISO/IEC 17025-1999.

What does this mean for the average laboratory maintaining more than one accreditation? A2LA asks that you contact us and let us know if you hold an accreditation with one of our ILAC partners (for a full list of signatories please see www.ilac.org). This accreditation will be endorsed by A2LA and acceptance of your results can be promoted to others. If you need both accreditations, a joint assessment between the accrediting bodies may be arranged. At the very least, A2LA can consider the other accreditation body's assessment in planning its own assessment. This may save you both time and money. If you have any questions regarding this information, we ask that you contact Ada Hensley via email at ahensley@a2la.org or by phone 301 644 3234 or contact your designated Laboratory Services Officer.
First Revision of the ILAC Arrangement Text Approved

At its October 2004 meeting, the International Laboratory Accreditation Cooperation (ILAC) General Assembly voted to approve revisions to the text of the ILAC Mutual Recognition Arrangement (Arrangement) including the obligations placed on ILAC full members (i.e., signatories to the ILAC Mutual Recognition Arrangement). There were several edits to update references and improve the language. Perhaps the most important section is the fourth clause of the Arrangement, which now reads:

4. Each signatory:

   (i) recognizes the operation of other systems within the programmes as defined in this arrangement as equivalent to its own within its scope of recognition of this Arrangement the accreditation of a laboratory by other signatories as being equivalent to an accreditation by its own organization,

   (ii) accepts, for its own purposes, endorsed * certificates or reports issued by laboratories accredited by other signatories on the same basis as it accepts endorsed * certificates or reports issued by its own accredited laboratories,

   (iii) recommends and promotes the acceptance by users in its economy of the calibration endorsed * certificates and test reports from the laboratories accredited by the other signatories as being on an equal basis with those of its own accredited laboratories,

   (iv) investigates all complaints initiated by a signatory resulting from certificates or reports issued by the laboratories it has accredited within its accreditation programs,

   (iv) notifies all other signatories as soon as possible of any significant changes that have occurred or will occur in its status, in the operational practices of its system or in its accreditation programs,

   (vi) contributes as appropriate to the work of the Arrangement Council,

   (vii) participates as appropriate in the meetings of the working group(s) of ILAC including return of ballots,

   (viii) provides evaluators for the evaluation and re-evaluation of accreditation bodies and Regional regional Cooperations cooperations as appropriate to its size and to the need of the Arrangement Management Committee (AMC) as agreed periodically by the AMC with the concurrence of the affected recognized regional cooperation,

   (ix) co-operates with other accreditation bodies so that the Arrangement may be extended to include other accreditation bodies and regional bodies cooperations,

   (x) uses all information obtained from the peer evaluation process in a confidential and professional manner, and

   (xi) abides by the rules for use of the ILAC-MRA mark.

* The word “endorsed” means a certificate or report bearing an Arrangement signatory’s accreditation symbol (or mark) preferably combined with the ILAC-MRA mark. (See the Newsletter Article regarding the A2LA Advertising Policy for a discussion of the combined mark. - ed)

The ILAC Mutual Recognition Arrangement (hereinafter referred to as the Arrangement) is a major co-operative effort to enhance the objective of free trade throughout the world. The criteria for the operation of accredited laboratories and for the operation of the accreditation bodies are currently specified respectively in ISO/IEC 17025, December 1999 (and future versions thereof), ISO 15189 or other standards ILAC deems to be suitable for accreditation, and in ISO/IEC Guide 58 (and ISO/IEC 17011:2004, as of 1 January 2006 versions thereof), supplemented by ILAC P-series documents.

ILAC has six categories of membership:

- Full members - the Arrangement signatories;
- Associates - accreditation bodies, but not yet recognized signatories;
- Affiliates - developing accreditation bodies;
• National coordination bodies;
• Regional cooperation bodies; and
• Stakeholders (including organizations of laboratories, inspection bodies, industry groups, etc.).

All ILAC categories of membership are obliged to support the aims and objectives of ILAC including the recognition and promotion of the *ILAC Mutual Recognition Arrangement* (the *Arrangement*).