Petition for Recognition

Date: July 1, 2016

Attn: Chief of the Office of Engineering and Technology,
United States Federal Communications Commission

RE: Test Laboratory Accreditation Body Recognition Request

1.) Submission Request:

In accordance with Title 47 of the U.S. Code of Federal Regulations (47 CFR) Part 2.949, the American Association for Laboratory Accreditation (A2LA) hereby requests recognition and classification as a recognized accreditation body by the U.S. Federal Communications Commission (FCC) to accredit foreign testing laboratories located in non-MRA countries, who seek to perform testing on products subject to the FCC Certification and Declaration of Conformity (DoC) approval procedures.

As requested by FCC KDB publication 974614 D02 (Accreditation Body Recognition v01), A2LA respectfully submits the following information in support of this request for recognition.

2.) General Information:

a.) A2LA contact information:

Adam Gouker
Accreditation Manager
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Phone: 301-644-3217
Fax: 240-454-9449

b.) General description of A2LA:

A2LA is a nonprofit, non-governmental, public service, membership society. A2LA provides world-class accreditation and training services for testing and calibration laboratories, inspection bodies, proficiency testing providers, reference material producers and product certifiers. Services are available to any type of organization, be it in the private or government sector. To date, A2LA has issued 2,978 certificates of accreditation across this range of fields. A2LA is currently an FCC recognized Test Firm Accreditation Body (TFAB) for laboratories located in the United States, and has 68 test firms currently registered with the FCC OET. In addition, A2LA is also currently recognized through the NIST/NVCASE program as an accreditation body to accredit FCC Telecommunications Certification Bodies (TCBs), and has currently accredited 15 TCBs who are currently FCC recognized.

5202 Presidents Court, Suite 220 | Frederick, MD 21703-8398 | Phone: 301 644 3248 | Fax: 240 454 9449 | www.A2LA.org

c.) Description of scope of work for which recognition is sought:
A2LA seeks recognition as a TFAB to accredit testing laboratories who are located in non-MRA countries. We seek to accredit these laboratories per the requirements of ISO/IEC 17025, and in accordance with the FCC KDB 974614 D01 Accredited Test Laboratory Program Roles and Responsibilities (v04). In particular, A2LA seeks recognition to accredit such laboratories who seek to perform testing on products subject to the FCC Certification and Declaration of Conformity (DoC) approval procedures for all Scopes of Accreditation identified in Appendix A, contained within KDB 974614 D01.

d.) Specific countries in which A2LA seeks to perform laboratory accreditations for the FCC rules:
A2LA seeks recognition as a TFAB to accredit laboratories located in the following non-MRA countries:

- People's Republic of China
- India
- Philippines
- Thailand

e.) Evidence of authorizations by government in each country (listed above) that A2LA plans to accredited testing labs, to test to FCC requirements, to operate and perform accreditation services:
In the Electrical field, A2LA has been accrediting laboratories in foreign countries outside the United States for nearly 20 years (dating back to early 1997), and currently has 2,978 accredited certificates for organizations located in 50 different countries around the world across all fields of accreditation. We are not aware of any current constraints with regard to our ability to accredit organizations in the countries we currently operate in around the world; and are not (nor have ever been) required to obtain specific licenses or approvals to perform our accreditation services in any country. With respect to this application for recognition, we would like to highlight the following number of active A2LA certificates of accreditation for each country for which recognition is sought:

- People's Republic of China – **91** certificates accredited
- India – **8** certificates accredited
- Philippines – **3** certificates accredited
- Thailand – **2** certificates accredited

f.) Evidence of ability to perform assessments in each country that A2LA plans to accredit testing laboratories:
As described in part (e) above, A2LA has already accredited multiple organizations in each of the countries where we request recognition to accredit testing labs that test to the FCC requirements. A2LA currently has 224 total active assessors, 14 of which are knowledgeable and qualified to assess testing laboratories to the FCC requirements. Therefore, in addition to our experience in accrediting laboratories in these countries, we feel that we also have adequate personnel resources who are prepared to carry out the assessments in these countries.

With respect to addressing performance issues of laboratories in these foreign countries, A2LA treats them in the same manner as any domestic accredited organization. All accredited laboratories must agree to abide by A2LA's *R101 – General Requirements: Accreditation of ISO/IEC 17025 Laboratories*, which describes the processes A2LA will take to address the withdrawal or suspension of an accredited or enrolled laboratory. Please refer to Part C, sections XIV, XV, and XVI (pages 18-21) of R101 for details. This document is provided as ***Attachment 1*** with this submittal. To this end, laboratories are also required to sign an attestation and agree to abide by A2LA's *R102 – Conditions for Accreditation*; which among other things requires the lab to afford accommodation and cooperation as is necessary to enable A2LA to verify compliance with the requirements for accreditation. R102 also requires labs to inform A2LA headquarters within 30 days and in writing of changes or pending changes in any aspect of the organization's status or operation. Please refer to ***Attachment 2*** for a copy of R102.

3.) Technical Qualifications:

a.) A2LA is currently a full member signatory to the following recognition arrangements, and has therefore undergone rigorous peer evaluation processes and been found to operate an accreditation system in compliance with the international standard *ISO/IEC 17011:2004 - Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies (formerly ISO Guide 58).* These recognitions attest to A2LA's competence to assess and accredit conformity assessment bodies to the relevant standards such as ISO/IEC 17025. Please refer to ***Attachment 3*** for evidence of A2LA's signatory status to each of the following.

a. International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA)
b. Asia Pacific Laboratory Accreditation Cooperation (APLAC) Mutual Recognition Arrangement (MRA)
c. InterAmerican Accreditation Cooperation (IAAC) Multilateral Recognition Arrangement (MLA)

A2LA has implemented an organization structure and procedures that ensure the impartiality, independence and integrity of assessors, committees and decision-making bodies. The lines of responsibility for each are clearly noted on the A2LA structure chart(s). There are several safeguards in place to ensure impartiality and to eliminate undue pressures on the assessment and decision-making processes.

A2LA is a commercially independent, non-profit, non-governmental corporation totally self-funded through its programs and membership dues. A2LA gets no direct funding from the government. A2LA has no related bodies. A2LA does not itself offer any conformity assessment programs; it only offers accreditation programs and training programs. With regard to the accreditation of proficiency testing providers, specifically, A2LA does not organize, offer or administer any proficiency testing programs of its own and does not undertake any activities of a proficiency testing provider.

A2LA has written a Code of Conduct document which includes policies related to Employee Professional Practice, Substance Abuse, Duty of Loyalty & Conflict of Interest, Confidentiality and Intellectual Property, Anti-Fraud and Whistleblowers. Employees are required to sign this document annually, indicating their agreement to abide by all policies within this document. Board of Directors,

assessors/contractors and committee & council members are required to sign this document annually, indicating their agreement to abide by all policies within this document, with the exception of the Employee Professional Practice Guidelines (which are for A2LA employees only).

All assessors for A2LA, the staff acting as assessors, Accreditation Council members, Criteria Council members, contractors/consultants and technical advisory committee members have signed the Code of Conduct which obliges them to maintain impartiality and to declare any potential or actual conflicts of interest. Assessors do not make recommendations with regard to accreditation. Their assessment role is strictly one of being a fact finder and judge of individual competence. In this way, the pressure to bias findings in order to justify a recommendation for or against accreditation is removed. Assessors may be involved in follow-up corrective action review and close out, but they still do not partake in the accreditation decision.

The Board of Directors has established an Audit & Ethics Committee which is responsible for (among other things) evaluating and resolving actual or potential conflicts of interest among Board members and addressing violations of the Code of Conduct.

Any complaint about an assessor is dealt with according to the procedure for complaints and evidence can be found in the complaint files.

The initial accreditation decision-making process is the responsibility of a three-person panel (at minimum) of the Accreditation Council, whose members also declare agreement with and obligation to abide by the Code of Conduct by signing it annually. All Accreditation Council members are experts within their particular fields and have been evaluated on their knowledge of the relevant standards and requirements. Accreditation Council panel members are selected by staff to vote on an accreditation decision based upon their background and lack of conflicts. Each voter individually considers a decision totally independent of influence from the other Accreditation Council members. There is no undue financial pressure on Accreditation Council members since they receive no financial benefit as volunteers to the Association and have no fiduciary responsibility to the Association.

Renewal decisions are made either internally by the President/CEO (when the organization had only a few simple deficiencies to resolve) or by the Accreditation Council panel (when the number and nature of the deficiencies warrants it). Accreditation decisions are completely separate from the decisions by the Board of Directors. Final appeals are a decision of an appeals panel made up of members of the Board of Directors who also must annually declare their obligation to abide by the Code of Conduct. The appeals panel cannot include anyone having a potential or actual conflict of interest.

Before assignment of an assessor, panel member of the Accreditation Council, or an appeals panel member, an applicant is given an opportunity to object to the assignment on the grounds of suspected lack of impartiality or previously unknown conflicts of interest.

A2LA has technical advisory committees that are completely open to anyone that is interested. Members of these technical committees do not need to be members of the Association although this is desired. The technical advisory committees report to the Criteria Council, made up of a balance of technical interests representing all fields and programs for which accreditation is offered. The Criteria Council independently reviews and votes on the adoption of all criteria and requirements for accreditation. Members of the Criteria Council receive no financial benefit as volunteers to the Association and have no fiduciary responsibility to the Association.

b.) A2LA currently has 322 certificates accredited in the Electrical field of testing (accreditation to ISO/IEC 17025:2005), which accounts for nearly 20 years of experience in accreditation within this field. More specifically, we have 180 test labs accredited for EMC testing, 116 accredited for Radio testing, and 105 accredited for telecommunications testing (note the overlap in these figures as one lab may be accredited for multiple disciplines). As mentioned previously, A2LA is also currently a recognized FCC TFAB and has accredited 68 test firms who are currently registered with the FCC. We are also a recognized accreditation body who supports several government to government MRAs such as APEC TEL, US-Japan, and US-Israel. Through these means, we feel that we are fully experienced and qualified to accredit test laboratories supporting the FCC equipment authorization program. We have also been witnessed by OET staff during on-site assessments of such laboratories and have had no concerns raised through these witnessed activities – the most recent witness activity was conducted June 18-20, 2014. A2LA has also invited FCC staff to participate in an upcoming witnessed assessment in August 2016 as part of our biennial NVCASE witness assessment.

c.) A2LA employs seven full time staff members who are all knowledgeable about the FCC accreditation requirements, and have experience in designating accredited test firms. A2LA also employs one staff member who is currently the APLAC Liaison to the APEC TEL MRA and Conformity Assessment Task Force, and employs one other staff member who previously held this role. At least two staff members also participate in biannual meetings with FCC and NIST staff, and also attend the biannual TCB Council workshops to keep apprised of FCC rules and requirements. Our contracted technical assessors are required to have at least 10 years of "bench" experience in their technical discipline. A2LA currently has 14 qualified assessors with such experience in the FCC equipment authorization rules and requirements.

d.) Policies and Procedures for accreditation and designation of testing laboratories for FCC Equipment authorization programs:

- The general policies and requirements for A2LA accreditation of testing laboratories for the FCC equipment authorization program are described in A2LA's *R101 – General Requirements: Accreditation of ISO/IEC 17025 Laboratories*.

- Procedures for designation of testing laboratories for FCC equipment authorization programs: The procedure for A2LA staff to follow in designating a lab to the FCC after accreditation is obtained, is outlined in Part IX. Appendix A, of SOP 207 – Processing the Final Paperwork. This SOP outlines the process for logging into the OET website, listing the lab's information, and uploading the FCC Technical Evaluation Checklist with a copy of the A2LA scope of accreditation.

- Considerations for operating in foreign countries: Regardless of whether or not a testing laboratory is located in a country that has (or does not have) an MRA with the United States; for accreditation of any laboratories located outside of the United States, A2LA adheres to *ILAC G21:09/2012 Cross Frontier Accreditation - Principles for Cooperation* (see ***Attachment 4***). Specifically, A2LA's SOP 038 – Responding to International Requests describes the steps taken by A2LA staff upon receipt of an application for accreditation from a foreign organization. This procedure addresses the need for A2LA to verify with the laboratory that they wish to proceed with our accreditation program, despite the fact that another accreditation body in the lab's geographic region may be available.

- Considerations for language differences: A2LA *R101 – General Requirements: Accreditation of ISO/IEC 17025 Laboratories*, Part C, section I, requires "All documentation must be provided in English and the assessment conducted in English. An appropriate English translation of pertinent documentation must be provided as well as a translator, if needed, to facilitate the assessment."

- Consideration of assessor experience with FCC regulations and selection of assessors: A2LA's A301 – Assessor Acceptability Guide outlines the criteria for A2LA assessor selection, training and monitoring. Assessors shall meet the criteria outlined in this document in order to be considered for any A2LA assessments. All prospective assessor candidates shall affirm their willingness to serve in accordance with A2LA policies, procedures and conditions for employment by submitting an official Assessor Application and Information Questionnaire. They shall provide appropriate background information (e.g., resumes and references) deemed necessary by A2LA to evaluate qualifications in accordance with A2LA criteria. A2LA shall then decide whether or not a candidate has met the prerequisites for undertaking assessments. Such qualified individuals become "potential" assessors.

  A2LA shall then brief assessors in training on A2LA rules, operation, criteria, techniques of assessment, and the role of an A2LA assessor. Each assessor in-training shall receive and shall study the A2LA Assessor Instruction Manual and the applicable assessor instructions, checklists, forms, and requirements booklets. All assessors shall successfully complete the relevant parts of the A2LA Assessor Orientation Course, coupled with training of the program's accreditation requirements. Each assessor-in-training shall first participate in a team assessment as an associate assessor and observe the assigned lead assessor assess the management system implementation, before assignment as a lead assessor, under the supervision of a person who has practical knowledge of the conduct of assessments.

One or more initial assessments, in which the assessor-in-training has lead responsibility for the conduct of the assessment, shall be witnessed by a qualified staff person or veteran assessor (who must have practical knowledge of the assessment processes). For every witnessed assessment, an Assessor Monitoring Checklist shall be completed and placed in the file folder of the candidate.

After completion of the initial assessment, A2LA shall determine whether to approve the assessor-in-training (candidate), or to continue the training process (e.g., by witnessing further assessments of the candidate, by having the candidate witness other A2LA assessors, and/or by having the candidate attend additional training courses), or to drop the candidate from further consideration.

A2LA reviews the performance of the members of the assessor corps during the fourth quarter of each year in accordance with the pre-defined criteria, and accept and recommend approval of the assessors, on a case-by-case basis, for continuation of their assessor contract in the coming year.

Additionally, Part IV, section B, within A2LA's SOP 202 – Processing an Application for Accreditation, provides details on the steps that A2LA staff must follow during the selection and assignment process for an approved assessor. These steps include, but are not limited to:

- Identifying an appropriate prospective assessor, taking into account their technical expertise related to the scope of accreditation
- Proposing the prospective assessor to senior management for approval to propose the assignment to the laboratory
- Upon approval by senior management, the assessor is contacted to review the scope of accreditation for the given laboratory to ensure they are capable of performing the assessment and have no conflicts of interest with the lab. The assessor biosketch is also provided to the lab at this time in order to allow them time to object to the assignment. If conflicts arise, a different assessor proposal is identified.
- When the assessor and lab have both accepted one another for the assignment, A2LA staff prepares the official assignment package.

- <u>Methods used to maintain competency in the FCC regulations:</u> A2LA monitors assessors in a number of ways to ensure that technical competency is maintained. The first method is through on-site evaluations of the assessor's performance. This process is detailed in A2LA SOP 023 – On-Site Evaluation of Assessors. Once an assessor is fully approved they are monitored through on-site witnessing once every three years. A second way A2LA monitors assessor performance and competency is through staff review of their reports following each assessment conducted. Staff rates their performance related to each specific assessment and provides the assessors with feedback on any needed areas of improvement. Overall ratings are then are compiled and reviewed by the Senior Director of Accreditation Services during the assessor's annual performance review.

  A2LA assessors are also rated on their performance by the laboratory at the conclusion of the accreditation process. Feedback surveys are sent to the lab when the initial and/or renewal accreditation is granted. If areas for improvement or competency concerns are identified by the laboratory regarding the assessor's knowledge, A2LA will take timely corrective action to address such matters.

A2LA's Accreditation Council (decision making committee), also has an opportunity to provide comments on the assessor's performance on every assessment package that is reviewed. Similar to lab feedback, if concerns are expressed by a Council member regarding the assessor's competency, A2LA takes timely corrective action to address the issues.

Lastly, A2LA has an Electromagnetic Advisory Committee (EMAC) that meets face to face at least once per year during the A2LA Annual Meeting and Technical Forum. The EMAC is responsible for the development of accreditation guides, positions, and recommendations to the Association for the activities related to laboratories in the following areas: Electrical, electromagnetic compatibility (EMC), electrical product safety, telecom, interoperability, wireless technologies, information technology (IT) and specific absorption rate (SAR) laboratories and other related labs. All A2LA assessors performing laboratory assessments to the FCC requirements attend the EMAC annual meeting. This provides a forum for open discussion between assessors, staff and accredited laboratories to ensure that all parties maintain competency in areas related to the scope of the EMAC. As described above, when issues arise throughout the year via staff, lab, or AC feedback mechanisms; the EMAC meeting is the venue where discussion and training often takes place in order to maintain up to date competencies and understanding of the rules. The EMAC has also developed a consensus document to address various expectations to consider when carrying out the assessments of laboratories in the Electrical field of testing – please refer to ***Attachment 5*** for a copy of A2LA's P111 - Technical Consensus Decisions from the Electromagnetic Advisory Committee-EMAC.

We thank you for your time and consideration of this request for recognition, and look forward to your favorable review.

Respectfully,

Adam Gouker
Accreditation Manager, A2LA
Email: agouker@A2LA.org

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Attachment 2 – R102 – Conditions for Accreditation

Attachment 3 – A2LA 17011 Signatory Status – ILAC, APLAC, IAAC

Attachment 4 - ILAC G21 (09-2012)

Attachment 5 – P111 - Technical Consensus Decisions from the Electromagnetic Advisory Committee-EMAC

Attachment 1 - R101 - General Requirements - Accreditation of ISO-IEC 17025 Laboratories

R101 -

General

Requirements:

Accreditation of

ISO/IEC 17025 Laboratories

February 2016

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PART A

INTRODUCTION

The AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (A2LA) is a non-profit, non-governmental, public service, membership organization dedicated to operating a nationwide, broad spectrum laboratory accreditation system. Accreditation is defined as a formal recognition of competence that a laboratory can perform specific tests or calibrations. Accreditation is available to any type of testing or calibration laboratory, be it in the private sector (independent or in-house) or in the government sector.

A2LA was formed in 1978, as a practical and efficient organization to develop and manage a system to verify and recognize competent laboratories. Accreditation is available for virtually all types of tests, calibrations, measurements and observations that are reproducible and properly documented.

The accreditation of laboratories is offered in the field of calibration and the following fields of testing:

Acoustics/Vibration	Biological	Chemical	Construction Material
Electrical	Environmental	Forensics	Geotechnical
Information Technology	Mechanical	Nondestructive	Sustainable Energy
Thermal			

Special programs are developed in response to user needs and may extend across more than one field of testing. If only a few tests from a second field are to be included and all testing is managed in one facility under one management system, these tests may be added to the scope of accreditation in the primary field at no charge for a second field. If there are two managers of equivalent status responsible for the testing in each field, accreditation will be necessary in both fields.

Users of accredited laboratories are advised to obtain the Scope(s) of Accreditation from any accredited laboratory or from A2LA. The Scope(s) of Accreditation identifies the specific tests or types of tests or calibration capability for which the laboratory is accredited.

The general requirements (general criteria) for A2LA accreditation are the international standard, ISO/IEC 17025:2005, *General Requirements for the Competence of Testing and Calibration Laboratories*. A2LA's official applications of the ISO/IEC 17025 requirements are contained on the A2LA website (www.A2LA.org) under the section titled, "Explanations for the ISO/IEC 17025 Requirements", and are updated frequently. It is expected that laboratories will implement the requirements of the standard in accordance with the applications listed there. Otherwise, areas of non-conformance will be identified by the assessor during the on-site assessment.

Additional program requirements (specific criteria) for specific fields (e.g. calibration, environmental testing) or specific programs which are necessary to meet particular user needs (e.g. Automotive EMC Laboratory Accreditation Program) complement these general requirements in particular areas.

In effect, A2LA accreditation attests that a laboratory has demonstrated:

a) it is competent to perform specific tests, types of tests, calibrations, or types of calibrations listed on its Scope(s) of Accreditation;
b) its management system addresses and conforms to all elements of ISO/IEC 17025, is documented per ISO/IEC 17025, and is fully operational;
c) it is operating in accordance with its management system; and,
d) it conforms to any additional requirements of A2LA or specific fields or programs necessary to meet particular user needs.

It is A2LA policy not to accredit or renew accreditation of a laboratory that fails to meet the above criteria (see Part B, Conditions for Accreditation and Part C, Accreditation Process, sections on deficiencies, accreditation decisions and suspension or withdrawal of accreditation).

In keeping with our mission:

> Providing world-class accreditation and training services for testing and calibration laboratories, inspection bodies, proficiency testing providers, reference material producers and product certifiers. These and other future services should create stakeholder confidence in the quality, competence and integrity of all A2LA-accredited organizations and in their products and services.

Our staff, assessors and committees are committed to providing the excellence in accreditation and the highest level of customer service and support to our valued accredited conformity assessment bodies, applicants and stakeholders relying on accreditation.

Trace McInturff
Senior Director, Accreditation Services

PART B

CONDITIONS FOR ACCREDITATION

In order to attain and maintain accreditation, laboratories must comply with the *Conditions for Accreditation (R102)* published by A2LA. This document is available at the A2LA website, www.A2LA.org, or from A2LA Headquarters.

In order to apply, the applicant laboratory's Authorized Representative and Authorized Deputy Representative, must agree to the conditions for accreditation and must attest that all statements made on the application are correct to the best of his/her knowledge and belief. An accredited laboratory's Authorized Representative is responsible for ensuring that all of the relevant conditions for accreditation are met. During the on-site assessment, the assessor will examine records and documentation to verify compliance with the Conditions for Accreditation.

PART C

A2LA ACCREDITATION PROCESS

I. Application

A laboratory applies for accreditation by obtaining the application package (available from A2LA headquarters or the A2LA website www.A2LA.org) and completing appropriate application sheets and relevant checklists. All applicants must agree to a set of conditions for accreditation (see Part B of this document), pay the appropriate fees set by the A2LA President & CEO, and provide detailed supporting information, including:

- Proposed scope of testing or calibration in terms of field(s) of testing or calibration, testing or calibration technologies, methods and relevant standards, and measurement uncertainty budgets if applicable (always required for calibration and dimensional inspection testing laboratories);
- Quality manual;
- Organization structure; and
- Proficiency testing results.

All documentation must be provided in English and the assessment conducted in English. An appropriate English translation of pertinent documentation must be provided as well as a translator, if needed, to facilitate the assessment.

Laboratory Types

Accreditation is site specific and is available for testing laboratories (tests) and calibration laboratories (calibrations). A2LA has defined the following laboratory types as follows:

Main Laboratory: A laboratory (organization) that maintains a single location only.

Permanent Laboratory: A laboratory erected on a fixed location. This is the laboratory location (address) denoted on the scope of accreditation.

Branch Laboratory [multi-location system]: A laboratory system that consists of two or more laboratories owned and operated by the same organization, utilizing the same management system and managed by a Corporate Representative [see *P106 - Branch System Policy* for more information].

Satellite Laboratory: A physically separate laboratory (from the main laboratory) that is allowed to place their testing or calibration capabilities on the main laboratory's scope (with a footnote to reference their location) as long as the satellite laboratory is:

- in close proximity to the main laboratory (usually within 50 miles, unless special exception is granted by A2LA management);
- in the same field of testing or calibration as the main laboratory;
- operating under the same management system and management as the main laboratory;
- not performing any 'key activities' (i.e. policy formulation, process and/or procedure development and, as appropriate, contract review, planning conformity assessments, review, approval and decision on the results of conformity assessments), and;
- able to have prompt supervisory oversight from the main laboratory, when necessary.

As accreditation is 'site specific', only the main laboratory address can be listed in the heading information contained on the Scope of Accreditation. The satellite location(s) address(es) will be listed at the end of the scope content of the main laboratory and will contain all of the scope content that coincides with that satellite location. If there is more than one satellite location, this information is repeated for each separate satellite location. As the satellite location(s) operate under the same management system as the main location, A2LA will assign the same assessor(s) and the satellite assessment(s) will occur concurrently with the main location assessment

Field: Any location where testing or calibration takes place as defined in Field Testing/Calibration.

Field Testing/Calibration: Testing/Calibration performed by staff of a laboratory or organization outside of the premises or grounds on which the permanent laboratory or the organization's permanent base or headquarters is located. Field testing/calibration may include sampling where it forms part of the documented calibration or test procedure. Accreditation for sampling alone is also offered.

Field Tests or Calibrations are normally performed under two categories:

- Field tests or calibrations performed by staff sent out in the field by an accredited, permanent laboratory. This includes in-situ testing[1].

- Field tests or calibrations performed in the field by organizations that do not have a permanent laboratory.

Field Laboratory: A testing or calibration laboratory facility set up in a dedicated location or at a customer's premises, outside of the organization's permanent base or headquarters for the duration of the testing or calibration activities but not for periods expected to exceed three years

[1] In-situ: Testing or calibration of a device or system performed at the place of its installation.

(e.g. a Construction Materials laboratory set up at an airport construction site, a calibration laboratory under contract set up in support of a customers manufacturing process). All field laboratories must be identified on the application paperwork, be assessed as part of the permanent laboratory assessment, and be identified on the laboratory's scope of accreditation.

Mobile Laboratory: Fully equipped, self-contained, transportable testing or calibration laboratory capable of performing tests or calibrations under controlled environmental conditions. A mobile laboratory may be a main or branch laboratory and is subject to the same accreditation requirements. The scope will identify the laboratory as a mobile laboratory and the fixed business address of the operator of the mobile laboratory shall be included on the scope.

To be considered for accreditation the laboratory must have a mobile laboratory available and be included in the assessment, and the mobile technical capabilities must be fully available for evaluation and delineated on the scope of accreditation for the laboratory. Once a laboratory with mobile capabilities is accredited, there isn't a need to assess additional mobile units as long as the technical capabilities being considered under accreditation is within the current scope of accreditation. If additional technical capabilities are added, an on-site assessment may be warranted.

For renewal assessments, when possible, a different mobile laboratory than the one provided previously shall be made available for the assessment.

Scopes of Accreditation

The scope of accreditation is the fundamental document attesting to the organization's competence to perform test and/or calibration services as indicated on the scope of accreditation.

For testing laboratories, the scope of accreditation is the official listing of the various tests, types of tests and/or technologies that the testing laboratory has been deemed competent to perform under the A2LA Accreditation. The testing scope identifies, wherever possible, the materials and/or products on which the testing is being performed, and the specific test methods/specifications/ in-house methods that apply to the accredited tests.

The testing scope of accreditation is normally identified in terms of standard test methods prepared by international, national, and professional standards writing bodies. If a laboratory desires accreditation for a superseded version of a standard test method, the date, edition, version, etc. used is identified in its scope of accreditation. When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories are expected to be competent in the use of the current version within one year of the date of publication of the standard test method. If a laboratory requests accreditation to a withdrawn and/or cancelled test method(s), the scope must include the date that these methods were withdrawn or cancelled and include a footnote clarifying that the method itself has been withdrawn and is now considered "historical".

Exclusions to test methods may only be included on a laboratory's scope of accreditation when the test method contains multiple methods or method options and the laboratory is only capable of performing a portion of these methods or method options. The scope must indicate these 'exclusions'. When a test method does not contain multiple methods or method options, the laboratory must be able to demonstrate full competency to meet all of the technical requirements in the method. In the cases where a laboratory is not capable of meeting the technical

requirements, the laboratory may write and validate their own internal procedure (see below).

Laboratories seeking accreditation for many tests or types of tests in each of two or more fields of testing will be accredited in each of these fields. However, laboratories seeking accreditation for types of tests primarily in one field of testing, with a few types of tests (*typically no more than 5*) from a second field, may include those tests from the second field on the scope of the primary field, although the laboratory will be assessed in all areas. In either case all tests and types of tests for which the laboratory applies and found competent to perform will be included on their scope of accreditation.

Likewise, for calibration laboratories, the scope of accreditation is the official listing of the various parameters or types of calibrations that the laboratory has been deemed competent to perform. For each calibration parameter/equipment, the scope identifies the specific ranges, Calibration and Measurement Capability Uncertainty (CMC), and the technique/reference standards used to perform the measurements.

In general, calibration capability may not be derived from scope parameters. In some cases, a laboratory's capability will be described in terms of types of tests, testing technologies, or other descriptive text when it is not appropriate or practical to identify specific tests or calibrations (see *G118 – Guidance for Defining the Scope of Accreditation for Calibration Laboratories*).

When calibration scopes of accreditation identify standard test methods prepared by international, national, and professional standards writing bodies, the calibration laboratory shall be able to demonstrate full competency to meet all of the technical requirements in the standard test method. Exclusions to test methods may only be included on a laboratory's scope of accreditation when the test method contains multiple methods or method options and the laboratory is only capable of performing a portion of these methods or method options. The scope must indicate these 'exclusions'. When a test method does not contain multiple methods or method options, the laboratory shall be able to demonstrate full competency to meet all of the technical requirements in the method. In the cases where a laboratory is not capable of meeting all the technical requirements of the standard test method, the laboratory shall not include it on the scope of accreditation.

If a calibration laboratory desires accreditation for a superseded version of a standard test method, the date, edition, version, etc. used is identified in its scope of accreditation. When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories are expected to be competent in the use of the current version within one year of the date of publication of the standard test method. If a laboratory requests accreditation to a withdrawn and/or cancelled test method(s), the scope must include the date that these methods were withdrawn or cancelled and include a footnote clarifying that the method itself has been withdrawn and is now considered "historical".

Accreditation of non-standard tests and calibrations which the assessor is permitted to examine in detail may be granted and shall be referenced in the scope by unambiguous identification. A2LA reserves the right to refuse to consider accreditation for proprietary tests or calibrations, without prejudice, if there is not sufficient accessibility to the method, records, equipment and/or facilities.

If a laboratory wishes accreditation for the use of its own methods, then it must provide the following information to the assessor(s) before assessment:

- Origin of method;
- Comparison with the standard methods they replace including any departures from the standard (if applicable);
- Reasons for and effects of departures;
- Validation data (per Section 5.4.5 of ISO/IEC 17025)

Parameter Based Scopes: If a laboratory requests a 'parameter-based' scope because they typically use methods specified by the customer, as much specificity as possible is captured on the scope. This includes the equipment capabilities and at least one method for each technology or parameter listed on the scope in addition to the details of the types of testing requested by the customer and the products/materials on which the testing is done. In addition, wording similar to the following is also listed on the scope: "*Using customer-specified methods directly related to the types of tests listed above.*" As such, the customer-specific methods that are covered under the accreditation are those directly related to the types of tests that the assessor has verified the laboratory is competent to perform. This same procedure can be used when identifying numerous "internal" or "in-house" methods.

Flexible or technology-based Scopes: There are circumstances in which a laboratory must perform testing activities in which it cannot identify either standard test methods prepared by national, international or professional standards writing bodies or in-house developed non-standard methods on their fixed scope of accreditation. These situations usually arise when the laboratory requires flexibility in allowing for changes in the matrices within a product area (f*lexibility concerning object/matrix/sample)* or with respect to parameters (f*lexibility concerning parameters/components/analytes).* The flexible or technology-based scope option is only available to laboratories accredited in the biological, chemical and forensics fields of testing. It is further limited to encompass only those activities related to chemical, biochemical and molecular biology testing. *This option will be reviewed on a case-by-case basis, and the final decision on allowing the flexible scope option rests with A2LA* [see A2LA *P112 – Flexible Scope Policy* for more information].

Additionally, if you seek accreditation to more than one standard (e.g. ISO/IEC 17025, ISO/IEC 17020, ISO/IEC 17043, ISO 15189, ISO Guide 34 or ISO/IEC 17065) your organization will be accredited to each of these standards with separate scopes of accreditation. However, if you seek accreditation for four or less activities from a second standard, your organization may include those activities from the second standard on the scope of the primary standard. Each standard will be clearly called out in this scope. In either case you will be assessed to both standards and all activities for which you apply and are found competent to perform will be included in your scope of accreditation.

Users of accredited laboratories are advised to obtain the Scope(s) of Accreditation from any accredited laboratory or from A2LA. The A2LA Certificates that accompany the Scopes of Accreditations are intended for display purposes.

II. Assessment Process

The objective of an assessment is to establish whether or not a laboratory complies with the A2LA requirements for accreditation and can competently perform the types of tests or calibrations for which accreditation is sought. However, when accreditation is required to demonstrate compliance with additional criteria which may be imposed by other authorities, such as in the case of U.S. EPA, the A2LA assessment will include such additional criteria. Assessors may also provide information, based on observations or in response to questions, in order to help the laboratory improve its performance. Assessors are restricted from providing consultation as this is not permitted under ISO/IEC 17011 *Conformity Assessment - General requirements for accreditation bodies accrediting conformity assessment bodies*, the standard A2LA operates and adheres to.

Delayed Assessment Policy: If a laboratory fails to undergo its full assessment within one year from receipt of the application at A2LA headquarters, the laboratory is prompted by A2LA to take action. If no action is taken within thirty (30) days of that reminder, the laboratory is required to begin the application process again and pay the laboratory accreditation fees in effect at that time. Any fees paid with the initial application are refunded according to the A2LA Refund Policy

Refund Policy: While the A2LA Application Fee is non-refundable, if a laboratory withdraws the application before completion of the assessment, it may apply for a refund of up to 50 % of the A2LA annual fee(s) and the balance of the unexpended assessor deposit. There will be no refund of annual fees after the assessment has been completed. Refunds of any balance remaining on the assessor deposit will be made at the time of the accreditation decision. Any withdrawal or refund request must be in writing.

Tax Policy: Any tax imposed by the jurisdiction where the assessment takes place or where fees are imposed, is to be paid by the laboratory in addition to the assessment fees.

A. Initial Steps

Once the application information is completed and the appropriate fees are paid, A2LA headquarters staff identifies and tentatively assigns one or more assessors to conduct an assessment at the laboratory's site. Assessors are selected on the basis of their testing or calibration expertise so as to be better able to provide guidance to the laboratories. They do not represent their employers (if so affiliated) while conducting assessments for A2LA. The laboratory has the right to ask for another assessor if it objects to the original assignment. A2LA assessors are drawn from industry, academia, government agencies, consultants, and from the laboratory community. Assessors work under contract to A2LA. Assessments may last from one to several days depending on the extent of the desired scope and the size of laboratory. More than one assessor may be required.

Laboratories in those countries for which the U.S. Department of State has issued a travel warning may be required to provide (at their expense and for an amount to be agreed upon between the lab and assessor) insurance coverage (e.g., life, health, kidnapping, etc.) for the assessor or assessment team that will be visiting them.

Assessors are given an assessor instruction manual (AIM) and checklists to follow in performing an assessment. These documents are intended to ensure that assessments are conducted as uniformly and completely as possible among the assessors and from laboratory to laboratory and to ensure an efficient, value added service for the customer.

Before the assessment is conducted, the assessor team requests copies of quality documentation and representative technical SOPs in order to prepare for the assessment. The quality manual and related documentation must be reviewed by the assessment team before the assessment can begin. This review is done ideally before the assessment is scheduled. Upon review of submitted documentation, the assessor(s) will provide the document review results to the laboratory in writing, and may ask the laboratory to implement corrective action to fill any documentation gaps required by ISO/IEC 17025 before scheduling the assessment. A pre-assessment visit may be requested by the laboratory or suggested by the assessor as an option at this point to enhance the success of the full assessment.

Prior to scheduling the full assessment, the assessor reviews the draft scope(s) to determine the tests/calibrations to possibly witness and checks on the availability of the technical personnel who perform the tests/calibrations. An assessment agenda is provided by the assessor.

B. Pre-Assessment (when requested)

A2LA assessors are permitted to conduct pre-assessments. There are two situations when a pre-assessment may be conducted:

1. When the lead assessor finds major gaps in the laboratory quality manual, or actually begins the assessment and finds a large number of problems. In this case, the assessor identifies them and suggests to the laboratory that a full assessment should wait until the problems have been addressed. This first identification of the problems would be considered a pre-assessment; or

2. When a laboratory requests a pre-assessment to better prepare for the full assessment. In this case, the laboratory has applied, but is unsure of its documentation or system and wants someone to perform a pre-assessment to identify problems. The full assessment follows later.

To implement the pre-assessment program, the laboratory must first apply for accreditation, paying the appropriate fees and assessor deposit. A lead assessor is assigned, with the laboratory's concurrence. If, during the discussions between the laboratory and assessor in preparation for the assessment, the laboratory concludes that it is in its interest to have a pre-assessment, it informs the assessor. The assessor notifies A2LA that the laboratory wants a pre-assessment. The daily rate of the pre-assessment is the same as the regular assessment rate, and can be deducted from any assessor deposits held on account at A2LA. No additional accreditation fees apply. Please note, however, that careful attention to the requirements should preclude the need for a pre-assessment.

C. On-Site Assessment

The full assessment generally involves:

- An entry briefing with laboratory management;
- Interviews with technical staff;
- Demonstration of selected tests or calibrations including, as applicable, tests or calibrations at representative field locations;
- Examination of equipment and calibration records;
- Audit of the management system to verify that it is fully operational and that it conforms to all sections of ISO/IEC 17025, including documentation and record review;
- Evaluation of your laboratory's compliance with the A2LA requirements documents
    - *R102 – Conditions for Accreditation*,
    - *R105 – Requirements When Making Reference to A2LA Accredited Status*,
    - *P102 – A2LA Policy on Metrological Traceability*,
    - *P103 – Policy on Estimating Measurement Uncertainty for Testing Laboratories*,
    - *R103 – General Requirements: Proficiency Testing for ISO/IEC 17025 Laboratories*,
    - and the applicable A2LA Technical Advisory Committee (TAC) Consensus Documents (these policy documents can be found on the A2LA website);
- A written report of assessor findings; and
- An exit briefing including the specific written identification of any deficiencies.

During interviews with technical staff, record review and observations of testing or calibration activities, the assessor confirms the depth of technical competency for the laboratory. At a minimum the laboratory must demonstrate that a person has been authorized to perform testing/calibration for each of the tests and/or calibrations the laboratory is seeking accreditation. If it is determined that there is only one person authorized for a given activity, this person is identified as an essential personnel on the assessor report. The laboratory is then responsible for informing A2LA whenever the status of the essential personnel changes (e.g. cross-training of additional individuals such that the essential person is no longer the only person technically competent to perform a given task(s), departure of the essential personnel resulting in the laboratory no longer having the technical competency to perform a given task, etc.). When the essential personnel departs a laboratory this will result in the laboratory losing the accreditation for those activities the essential personnel was solely responsible. To regain accreditation for those testing/calibration activities, the laboratory would be required to provide objective evidence they have authorized applicable staff to perform such activities. This can be achieved via on-site assessment, record review, and/or telephone/web interview, as determined by A2LA.

During the full assessment, the assessor has the authority to stop the process at any time and consult with A2LA staff and the laboratory's management to determine if the assessment should proceed. In cases where the number of significant deficiencies affects the ability to successfully complete a full assessment, the visit may be converted to a pre-assessment, or a suspension may be recommended if technical capability is lost (see Section XV Suspension of Accreditation). The full assessment is then rescheduled when the laboratory and assessor feel it is appropriate to proceed.

III. Deficiencies

During the assessment, assessors may identify deficiencies. A deficiency is any nonconformity to accreditation requirements including:

- a laboratory's inability to perform a test, type of test, or calibration for which it seeks accreditation;

- a laboratory's management system does not conform to a clause or section of ISO/IEC 17025, is not adequately documented, or is not completely implemented in accordance with that documentation; or

- a laboratory does not conform to any additional requirements of A2LA or specific fields of testing or programs necessary to meet particular needs.

At the conclusion of an assessment, the assessor prepares a final written report of findings, identifying deficiencies which, in the assessor's judgment, the laboratory must resolve in order to be accredited. The assessor holds an exit briefing with top management of the laboratory, going over the findings and presenting the list of deficiencies (deficiency report). The authorized representative of the laboratory (or designee) is asked to sign the deficiency report to attest that the deficiency report has been reviewed with the assessor. The signature does not imply that the laboratory representative concurs that the individual item(s) constitute a deficiency. If the number and/or nature of the deficiencies are deemed by A2LA staff as extreme, A2LA may require a follow-up assessment be conducted to ensure that appropriate corrective actions have been implemented.

Assessors may also write an 'observation' when they question the practice or competence of the laboratory but there is not enough supporting objective evidence to justify a deficiency or the issue cannot be tied to the accreditation requirements. If this occurs, the laboratory does not have to respond to observations in order for accreditation to be granted. However, the observations are part of the assessment record and will be followed up by the next assessor to visit the laboratory who will check to see if that observation was addressed by the laboratory, resulting in an improvement, or possibly may have progressed into a deficiency.

IV. Corrective Action Process

The laboratory is requested to respond, in writing, within one month (30 days) after the date of the exit briefing detailing either its corrective action or why it does not believe that a deficiency exists. The corrective action response must include the laboratory's root cause analysis and a copy of any objective evidence (e.g., calibration certificates, lab procedures, paid invoices, packaging slips and/or training records) to indicate that the corrective actions have been implemented/completed. It is possible that the assessor's review of the corrective action response may be needed to determine if the response is satisfactory. If this review is expected to take more than two hour's time, A2LA may invoice the laboratory for this time at the prevailing assessor rate. The assessor will discuss the possibility of this review with the laboratory during the exit briefing and obtain the laboratory's concurrence.

When addressing an equipment calibration related deficiency to *P102 - A2LA Policy on Metrological Traceability*, please note that if the laboratory is using a calibration provider that does not meet *P102* -, to satisfy the deficiency the laboratory does ***not*** need to immediately re-calibrate the equipment in question using an acceptably accredited calibration source. The laboratory must be able to demonstrate in their corrective action response that they will use an

acceptable source of calibration *for the next regularly scheduled calibration cycle*. An acceptable source is a calibration laboratory accredited by A2LA or one of our mutual recognition partners. We invite your attention to our website www.A2LA.org for a listing of our partners.

When addressing a reference material related deficiency to *P102 - A2LA Policy on Metrological Traceability,* please note that if you are using a reference material(s) that does not meet *P102,* to satisfy the deficiency you do ***not*** need to immediately purchase a new reference material from a recognized source. You must demonstrate in your corrective action response that you will purchase acceptable reference materials *on your next scheduled purchase; or by your next regularly scheduled A2LA renewal assessment, whichever is sooner*. An acceptable source is a reference material producer accredited by A2LA or one of our mutual recognition partners that are recognized for reference material producer accreditation (currently only through the APLAC MRA).

It is entirely possible that the laboratory will disagree with the findings that one or more items are deficiencies. In that case, the laboratory is requested to explain in its response why it disagrees with the assessor.

A new applicant laboratory (i.e. initial assessment) must ***respond*** in writing within 30 days of the exit briefing, and ***resolve*** all deficiencies within four (4) months of the exit briefing. A new applicant laboratory that fails to ***resolve*** all its deficiencies within four (4) months of being assessed shall be subject to being reassessed at its expense. A2LA staff has the option to ask for reassessment of a laboratory before an initial accreditation vote is taken based on the number, extent and nature of the deficiencies.

Renewal laboratories must ***respond*** in writing within 30 days of the exit briefing, and ***resolve*** all deficiencies within 60 days of the exit briefing. Failure to meet these deadlines may result in adverse accreditation action (e.g. reassessment or suspension of accreditation). The Accreditation Council panel also has the option to require a follow-up assessment of any laboratory (new or renewal) before an affirmative accreditation decision can be rendered. The laboratory is responsible for any costs associated with this 'follow-up' assessment.

V. Accreditation Anniversary Date

The anniversary date of a laboratory's accreditation is established 105 to 135 days after the last day of the final assessment before an initial accreditation decision, regardless of the length of time required to correct deficiencies. This date normally remains the same throughout the laboratory's enrollment.

VI. Extensions to the Accreditation Anniversary Date

If a laboratory is in their renewal process and is making good faith efforts with A2LA when approaching their accreditation anniversary date, A2LA may extend their accreditation for up to an additional 90 days to complete the renewal of accreditation process. When fundamental nonconformances are identified during an assessment, extensions of accreditation are not considered until the laboratory submits objective evidence demonstrating that the nonconformances have been addressed. Likewise, extensions are not granted when delays are due to the laboratory's failure to respond to requests within established deadlines:

- receipt of complete renewal application after imposed due date;
- assessment not performed within assessor availability;
- receipt of response to assessor deficiency report beyond 30 days of assessment exit briefing;
- closure of all deficiencies beyond 60 days of assessment exit briefing.

When a laboratory is granted an extension to their accreditation, a revised Certificate and Scope of Accreditation are posted to the A2LA website which reflects the extended anniversary date. Hard copies of these documents will be made available only upon request. Upon completion of the renewal process, both documents are reissued, reflecting the renewed anniversary date.

When an extension of accreditation is not considered, upon expiration, laboratories will be removed from the A2LA Accredited list on the A2LA website and placed on a separate website list called "Expired Certificates in Good Standing". Laboratories on this list are currently considered ***not*** accredited but are somewhere in renewal process.

VII. Proficiency Testing

Proficiency testing is a process for checking actual laboratory testing performance, usually by means of interlaboratory test data comparisons. For many tests and calibrations, results from proficiency testing are very good indicators of competence. Proficiency testing programs may take many forms and standards for satisfactory performance can vary depending on the field. For details on the requirements for proficiency testing, please refer to the *R103 General Requirements: Proficiency Testing for ISO/IEC 17025 Laboratories* and the associated *Annex (R103a)*.

Laboratories are required to participate in proficiency testing programs, where relevant and available, and provide A2LA with the results of their participation within 30 days upon receipt of the results. If the results of the proficiency testing activities include outliers, laboratories are required to provide A2LA with their corrective action measures resolving the non-conformance. It is possible that the assessor involved in the previous assessment may be asked to review the corrective action response to determine if the response is satisfactory. As such, A2LA may invoice the laboratory for this time at the prevailing assessor rate.

VIII. Accreditation Decisions

Before an accreditation decision ballot is sent to Accreditation Council (AC) members, staff shall review the deficiency response, including the laboratory's root cause analysis and objective evidence of completed corrective action, for adequacy and completeness. If staff has any doubt about the adequacy or completeness of any part of the deficiency response, the response is submitted to the assessor(s). Since all deficiencies must be resolved before accreditation can be granted, staff shall ask the laboratory for further written response in those cases where staff recognizes that an affirmative vote is not likely because of incomplete corrective action in response to deficiencies or obvious lack of supporting evidence that corrective action has been completely implemented.

Staff selects a panel of at least three AC members for voting. The panel is chosen so that the full range of the laboratory's testing and/or calibration capabilities is adequately covered by the AC review. Especially in the case of those laboratories seeking (re)accreditation for multiple fields, it may be necessary to select more than three AC members in order to accomplish this. The

laboratory is consulted about any potential conflicts of interest with the AC membership prior to sending their package to the AC. Generally, at least two affirmative ballots (with no unresolved negative ballots) of the three ballots distributed must be received before accreditation can be granted. If three or more AC members are required in order to ensure a full review of the laboratory's testing/calibration activities, (re)accreditation may not be granted until all of these votes have been received and any negative votes resolved.

It is the primary responsibility of assessors to judge whether the observed evidence is serious enough to warrant a deficiency. However, the panel members that are asked to vote on an accreditation decision are required to make a judgment whether or not deficiencies still exist based on information contained in the ballot package. Accordingly, panel members can differ with assessor judgments, based upon their interpretation of the criteria for the specific case under question and the supporting evidence available whether a deficiency does or does not exist. Staff attempts to resolve these differences as they arise, but it remains for the panel to make the initial decision.

Staff shall notify the laboratory asking for further written response based on the specific justification for one or more negative votes received from the panel. If further written response still does not satisfy the negative voter(s), a reassessment may be proposed or required. If a reassessment is requested by more than one voter, the laboratory is asked to accept a reassessment. The laboratory is responsible for any costs associated with this reassessment. If the laboratory refuses the proposed reassessment, a nine-member Accreditation Council appeals panel is balloted (see Sections XIV Adverse Accreditation Decisions and XVII Appeals Procedures below).

If accreditation is granted, the A2LA staff prepares and forwards a certificate and scope of accreditation to the laboratory for each enrolled field of testing (and special program if appropriate). The laboratory should keep its scope of accreditation available to show clients or potential clients the testing technologies and test methods for which it is accredited. A2LA staff also uses the scopes of accreditation to respond to inquiries and to prepare the A2LA online directory.

IX. Annual Review

Accreditation is granted for two years. However, after the initial year of accreditation, each laboratory must pay annual fees and assessor fees and undergo a one-day surveillance visit by an assessor. This surveillance visit is performed to confirm that the laboratory's management system and technical capabilities remain in compliance with the accreditation requirements. Failure to complete the surveillance assessment within the designated time frame may result in adverse accreditation action (see Section XV Suspension of Accreditation).

For subsequent annual reviews occurring after the renewal of accreditation (see Section X Reassessment and Renewal of Accreditation) each laboratory must pay annual fees and submit updating information on its organization, facilities, key personnel and results of any proficiency testing. Objective evidence of completion of the internal audit and management review is also required. If the renewal laboratory does not promptly provide complete annual review documentation, significant changes to the facility or organization have occurred, or proficiency testing results have been consistently poor, a one-day surveillance visit and payment of the associated assessor fees is required. Furthermore, if significant problems were noted during the

last on-site assessment that warrant follow-up or if significant issues have arisen since the last on-site assessment that could call into question the laboratory's compliance with the accreditation requirements, an appropriate surveillance visit and payment of the associated assessor fees may be required.

X. Reassessment and Renewal of Accreditation

A2LA conducts a full reassessment of all accredited laboratories at least every two years. Reassessments are also conducted when evaluations and submissions from the laboratory or its clients indicate significant technical changes in the capability of the laboratory have occurred.

Each accredited laboratory is provided with a renewal application six (6) months in advance of the expiration date of its accreditation to allow sufficient time to complete the renewal process. A successful reassessment at the laboratory's site must be completed before accreditation is renewed for another two years.

If deficiencies are noted during the renewal assessment, the laboratory is asked to write to A2LA within 30 days after the assessment stating the corrective action taken. All deficiencies must be resolved before accreditation is renewed for another two years.

The renewal decision process is similar to the initial decision process (see Section VIII Accreditation Decisions), except as follows:

1) If there are no deficiencies, renewal is automatically processed without an Accreditation Council panel vote.

2) If there are only a few deficiencies of a minor nature (i.e., the non-compliances do not directly affect the integrity of calibration or test results) and there is sufficient objective evidence that the deficiencies have been resolved, the President may elect to renew accreditation without an Accreditation Council panel vote.

3) If there are major deficiencies (i.e., the non-compliances directly affect the integrity of calibration or test results), the staff advises the laboratory of the required time-frame (normally 30 days) in which to resolve all deficiencies or be subject to further actions leading to suspension or withdrawal of accreditation (see Sections XIV Adverse Accreditation Decisions, XV Suspension of Accreditation, and XVI Withdrawal of Accreditation). Several related minor deficiencies or repeat deficiencies from previous assessments may also be considered a major deficiency. In these cases, a ballot of the Accreditation Council panel is conducted using the same voting procedure as for initial accreditation decisions.

In cases where significant deficiencies are identified in a renewal assessment, the laboratory may be required to undergo a surveillance assessment in conjunction with the next annual review to verify continued implementation of corrective actions (see Section IX Annual Review).

XI. Extraordinary Assessments

Although rare, A2LA may require laboratories to undergo an extraordinary assessment as a result of complaints or significant changes to the laboratory's management system. Pursuant to

the severity of the complaint, this 'for cause' assessment may be performed with little or no advance warning. If reasons for the "for cause assessment" are determined to be justified or substantiated during the conducted assessment, the laboratory is responsible to cover any associated costs.

XII. Adding to the Scope of Accreditation

A laboratory may request an expansion to its scope of accreditation at any time. If a request is made at a time in which an assessor will not be on-site (e.g. surveillance, renewal assessment), the request must be submitted in writing to A2LA headquarters using the *F108 – Request for Expansion of Scope of Accreditation – Testing* form or the *F112 – Request for Expansion of Scope of Accreditation – Calibration* form. Each request is handled on a case-by-case basis. Unless the previous assessor can verify the competence of the laboratory to perform the additional tests or calibrations, another assessment at the laboratory's site is normally required. If the assessor can recommend a scope addition without an assessment, but this recommendation requires extensive review of supporting documentation requiring more than two hours' time, A2LA may invoice the laboratory for this review time at the prevailing assessor rate. If a laboratory requests multiple scope expansion requests over the period following its previous assessment and until the assignment of the next assessor, assessor review time beyond the two hours' cumulative gratis time will be invoiced to the laboratory at the prevailing assessor rate. If the additional tests or calibrations involve a new technology, another assessment is definitely required. Similarly, if a laboratory relocates, a follow-up assessment is normally warranted.

XIII. Laboratory Reference to A2LA Accredited Status

The requirements pertaining to the use of the "A2LA Accredited" symbol and to any other reference to A2LA accreditation are outlined in the document titled *R105 – Requirements When Making Reference to A2LA Accredited Status*. The document is available from A2LA Headquarters or on the A2LA website, www.A2LA.org. Failure to comply with these requirements may result in suspension or revocation of a laboratory's accreditation.

XIV. Accreditation Status and Adverse Accreditation Decisions

There are various levels of status that may be assigned to laboratories that cannot uphold the requirements for initial or continued accreditation:

Voluntary Withdrawal – A new applicant laboratory, not yet accredited, or a renewal laboratory, can decide to terminate further accreditation action and voluntarily withdraw from the accreditation program. The laboratory contact must inform A2LA in writing of this request. A2LA does not publicize the fact that a new laboratory had applied and then withdrawn nor will it advertise that a renewal laboratory has elected to voluntarily discontinue its accreditation. If A2LA learns that the accredited laboratory is going, or has gone out of business, the laboratory is contacted for further detail and the lab's accreditation is voluntarily withdrawn.

Inactive Status – A laboratory is designated as inactive when it has specifically requested in writing that its accreditation be allowed to temporarily expire due to unforeseen circumstances that prevent it from adhering to the A2LA Conditions for Accreditation. To regain accredited status, the Inactive lab must notify A2LA in writing of this desire, agree to

undergo a full reassessment, paying all renewal fees and reassessment costs. A laboratory that has relocated is also designated as inactive until its ability to perform the tests and/or calibrations on its scope at the new location has been confirmed (e.g. by a visit to the laboratory's site).

The Inactive status is publicized on the A2LA website and can be given to a laboratory for no longer than one year, after which time the laboratory is removed from the A2LA system and designated as withdrawn.

XV. Suspension of Accreditation

Suspension of all or part of a laboratory's accreditation may be a decision made by either the President or Accreditation Council panel. The accreditation applicable to a specific laboratory may be suspended upon adequate evidence of:

- non-compliance with the requirements of a nature not requiring immediate withdrawal (e.g. identification of significant deficiencies during an assessment);
- failure to provide full corrective action responses resulting from deficiencies cited during surveillance, renewal or follow up assessments within the specified timeframe;
- improper use of the "A2LA Accredited" symbol (e.g., misleading prints or advertisements are not solved by suitable retractions and appropriate remedial measures by the laboratory); and
- other departures from the requirements of the A2LA accreditation program (e.g., failure to pay the required fees, submit annual review information within 60 calendar days after it is due, or complete a surveillance assessment within the designated time frame or non-compliance with *R102 – Conditions for Accreditation*).

The accreditation of a laboratory shall immediately be suspended by the President if the laboratory or any individual or entity responsibly connected with the laboratory is indicted for, convicted of, or has committed acts which would: under United States federal or state law, constitute a felony or misdemeanor involving misstatements, fraud, or a bribe-related offense; or reflect adversely on the business integrity of the applicant or A2LA. A laboratory may appeal the adverse accreditation decision but the suspension will not be lifted until all court related actions are made final.

When an accredited laboratory is suspended, A2LA shall confirm an official suspension in a certified letter, return receipt requested, (or equivalent means) to the laboratory's authorized representative, stating:

- the noncompliance(s) that has been identified;
- the rationale for imposing the suspension;
- the conditions under which the suspension will be lifted;
- that the suspension will be publicized on the A2LA website;

- that the suspension is for a temporary period to be determined by the time needed to take corrective action;

- that, within thirty (30) days of receipt of the notice, the laboratory may submit in person, or in writing, information in opposition to the suspension, including any additional information that raises a genuine dispute over material facts;

- that a further review will be conducted to consider such information and a further written notification will be sent to the laboratory by certified mail, return receipt requested, indicating whether the suspension has been terminated, modified, left in force or converted to a withdrawal of accreditation.

In some fields of testing or special programs, failure to meet with the criteria for acceptable proficiency test results can result in automatic suspension of accreditation for the test(s) under question (not the entire scope). These are identified in the specific requirements for those fields or in the *R103 - General Requirements: Proficiency Testing for ISO/IEC 17025 Laboratories* and the associated *Annex (R103a)*.

XVI. Withdrawal of Accreditation

A2LA shall withdraw accreditation for any of the following causes:

- under the relevant provisions for suspension of accreditation;

- if surveillance or reassessment indicates that deficiencies are of a serious nature as judged by the Accreditation Council panel;

- when complaints are received relating to one or more of the laboratory's test reports/calibration certificates and investigation reveals serious deficiencies in the management system and/or competence in conducting the specific tests/calibrations;

- if the accreditation rules are changed and the laboratory either will not or cannot ensure conformance to the new requirements;

- on any other grounds specifically provided for under these program requirements or formally agreed between A2LA and the laboratory;

- when such action is necessary to protect the reputation of A2LA; and

- at the formal request of the laboratory.

When it is proposed to withdraw accreditation, A2LA shall issue a written notice by certified mail:

- that withdrawal is being considered;

- of the reasons for the proposed withdrawal sufficient to put the laboratory on notice of the cause;

- that within thirty (30) days of receipt of the notice, the laboratory may submit in person, or in writing, information in opposition to the withdrawal, including any additional information that raises a genuine dispute over material facts; and,

- of the effect of proposed withdrawal, including removing the laboratory's name from the A2LA on-line directory and publicizing the action on the A2LA website for 90 days or the time interval remaining on the accreditation period, whichever is less.

A laboratory may appeal to A2LA against a decision to withdraw or not to award accreditation.

XVII. Appeals Procedure

There are two possible levels that an appeal can reach before being resolved:

1) Accreditation Council (nine-member appeals panel);
2) Board of Directors.

The A2LA staff shall advise the applicant in writing of its right to challenge an adverse accreditation decision by the President or initial Accreditation Council panel (see Section VIII Accreditation Decisions). The appeals policy, including an applicant's right to a hearing, is contained in the A2LA Bylaws.

An appeal shall be lodged no later than thirty (30) days after notification of the decision by forwarding a certified letter to A2LA for timely consideration by the nine-member appeals panel of the Accreditation Council.

Any decision from an appeals vote which would deny or withdraw a laboratory's complete accreditation, must be agreed upon by a two-thirds of the (sum of the affirmative and negative – abstentions are not included) votes received from the nine-member appeals panel of the Accreditation Council. Votes must be received from all members with specific technical background necessary to review the laboratory's scope of accreditation. The decision of the Accreditation Council's appeals group is communicated in writing to the appellant.

If the decision is not favorable to the appellant, the appellant may lodge a further appeal within thirty (30) days of notification by forwarding a certified letter to A2LA for timely consideration by the Board of Directors. This letter shall include appropriate substantiation for the appeal. This letter and appropriate background documentation will be promptly transmitted to the members of the Board of Directors appeals group, the composition of which to be determined by the Board Chairman taking into account any conflict-of-interest considerations and the nature of the appeal. The decision of the Board of Directors shall be final and binding, except that any court having jurisdiction may set aside such decision when bias, fraud or misconduct of the Board has been determined, and is communicated in writing to the appellant.

XVIII. Confidentiality Policy

A2LA is responsible for seeing that confidentiality is maintained by its employees, assessors and Accreditation Council members concerning all confidential information with which they become acquainted as a result of their contacts with laboratories. Such information is examined by a small group of A2LA staff, assessors, and Accreditation Council and external bodies as needed for recognition of the program. All are made aware of its confidentiality. The Association agrees to hold all disclosed confidential or proprietary information or trade secrets in trust and confidence. The information shall be used only for accreditation purposes, and shall not be used for any other purpose, nor shall it be disclosed to any third party without written consent of the applicant laboratory unless required by law or judicial or administrative process or regulation (such as through a properly issued and served subpoena).

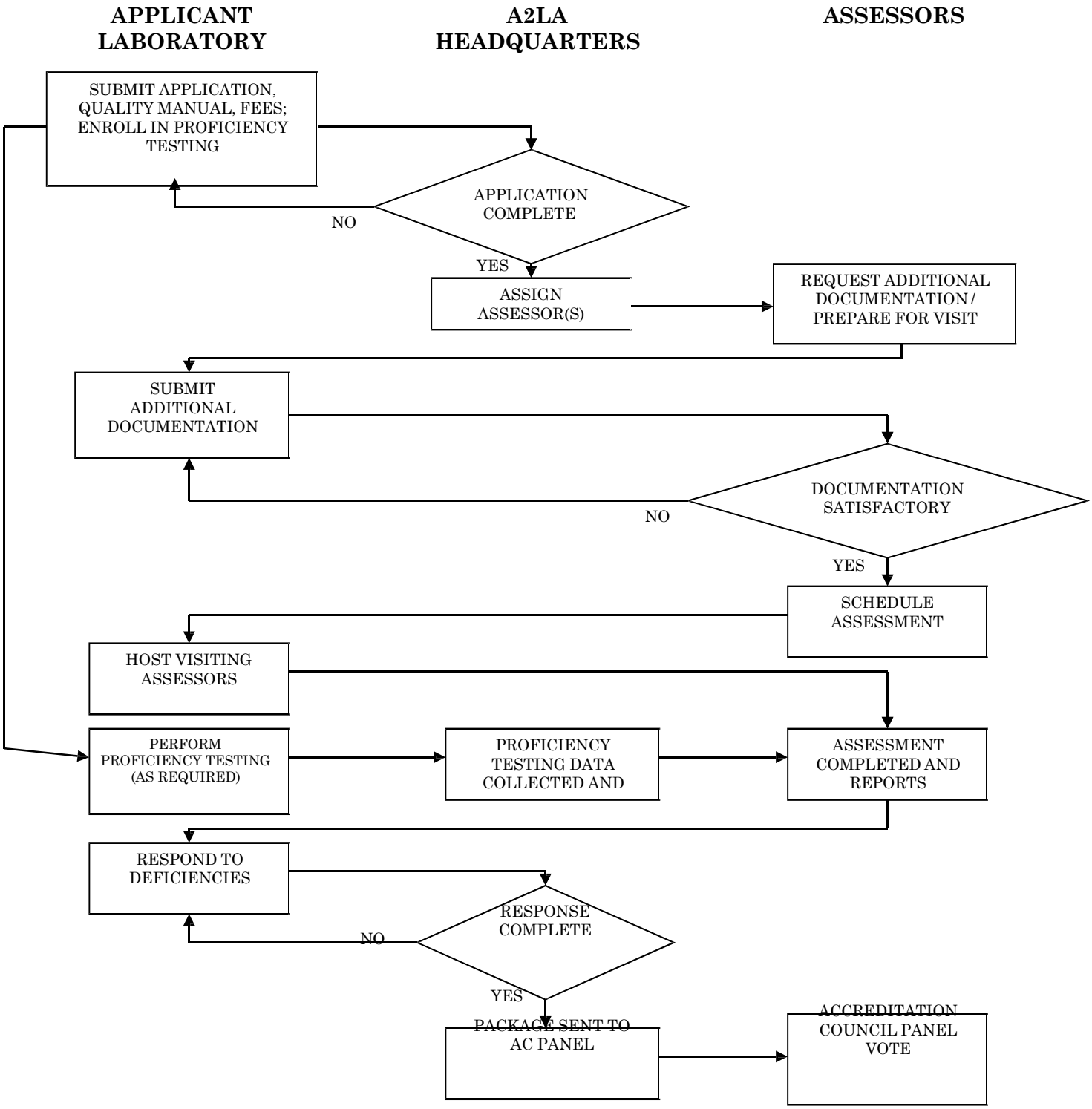
All information provided by applicants in connection with a request for an application package, an application for accreditation, an assessment or proficiency test is confidential. Documents necessary to convey information about accredited laboratories and their scopes of accreditation are not confidential. In response to a question about whether or not a particular laboratory has applied for accreditation, A2LA simply responds by saying that the laboratory is not accredited. Staff neither confirm nor deny whether a laboratory has ever applied for accreditation. If the laboratory itself is saying that it has applied for accreditation, it is the laboratory's responsibility to release the information regarding its applicant status. If the caller says that the laboratory claims it applied, staff shall take the name, address and phone number of the laboratory to check to see if the laboratory is misleading the client but staff still will not verify the laboratory's application. Should an applicant laboratory require that staff verify for a potential client that it has applied to A2LA, staff shall indicate that it has applied only if the applicant makes such a request to A2LA in writing or designates on the application for accreditation that A2LA is authorized to release information regarding the applicant's status.

Accreditation status is public information and A2LA reserves the right to inform anyone of changes to the accreditation status of any laboratory. However, if an inquiry is made about a laboratory whose accreditation has lapsed but is in the renewal process, staff can indicate that the laboratory is not now accredited but is in the process of renewal, if that is the case. If the renewal laboratory's accreditation has lapsed with no indication (return of renewal forms or payment) of pursuit of renewal, staff indicates simply that the laboratory is not accredited.

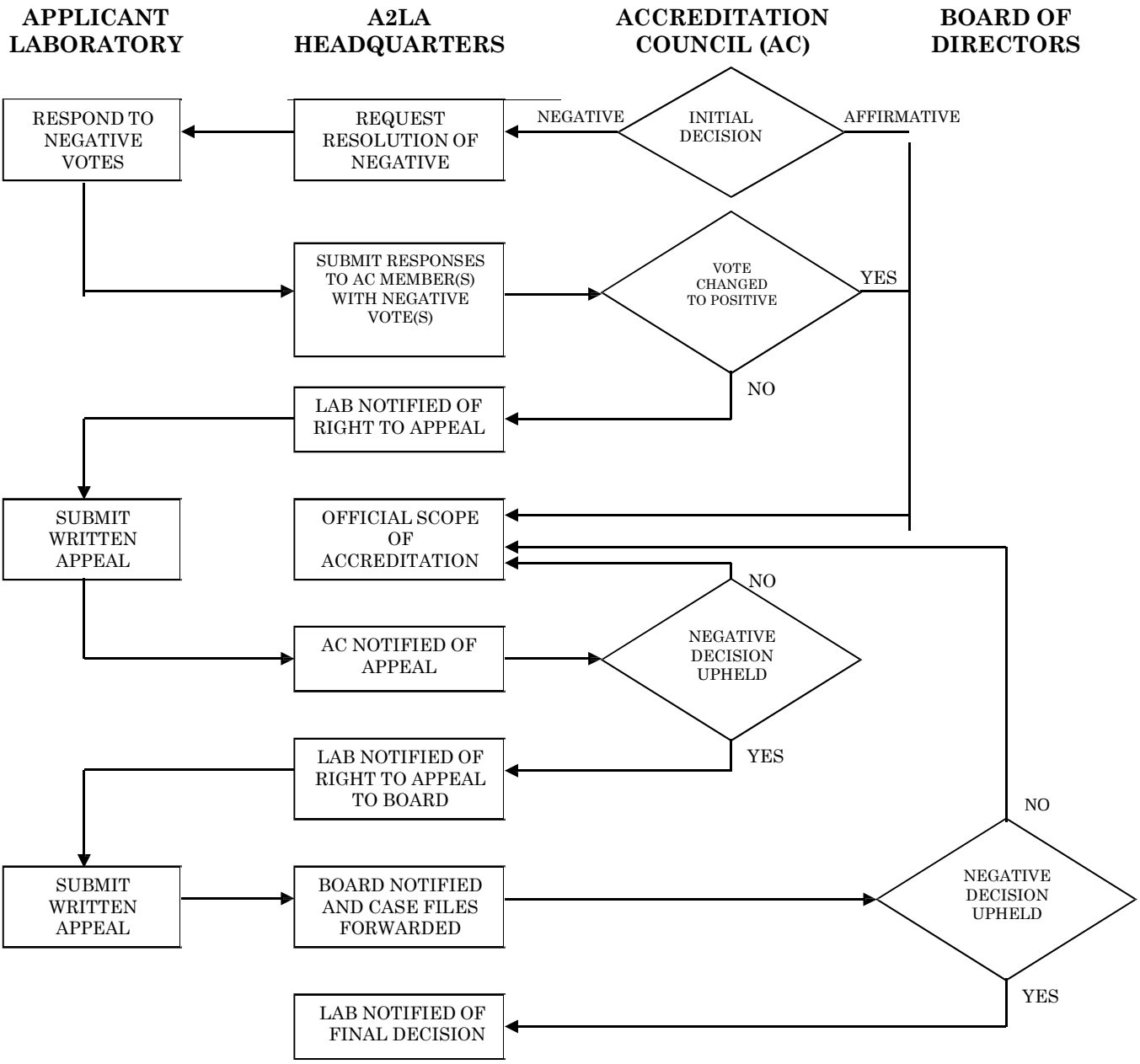
XIX. Conflict of Interest Policy

Since its inception, A2LA has had a policy that actual or apparent conflicts of interest must be avoided as mandated by normal business ethics. Consistent with the principles set forth in ISO/IEC 17011, *Conformity Assessment – General requirements for accreditation bodies accrediting conformity assessment bodies*, A2LA believes that it is vital that its accreditation services be impartial and objective, uninfluenced by the private interests of individuals acting for A2LA. Accordingly, any person directly involved in actions relating to the A2LA accreditation process shall avoid direct participation in A2LA actions that may involve an actual or apparent conflict of interest. The Audit & Ethics Committee of the Board and the President shall, as promptly as possible, take all possible means to prevent or overcome any such actions that may conceivably be in violation of this policy.

A2LA ACCREDITATION PROCESS



A2LA APPEALS PROCESS DIAGRAM



Document Revision History

Date	Description
4/14/2014	• Updated Section II, C to add paragraph on 'essential personnel'; • Updated Section XII. to stipulate that an F108 or F112 form is only required when requesting a scope expansion when an assessor will not already be on site (e.g. renewal assessment); • Updated Section XIV. Accreditation Status and Adverse Accreditation Decisions to indicate that 'Inactive' status is publicized on the A2LA website; • Updated Section XVI. Withdrawal of Accreditation to stipulate that the withdrawal of accreditation is publicized on the A2LA website "… *for 90 days or the time interval remaining on the accreditation period, whichever is less*." • Changed P101 references to R105 (which replaces P101).
2/18/2015	• Updated Scopes of Accreditation to reference *G118 – Guidance for Defining the Scope of Accreditation for Calibration Laboratories*. • Updated IV. Corrective Action Process to require initial applicants (new assessments) to respond to findings in 30 days and resolve all findings in four (4) months.
2/2/2016	• Updated name of A2LA *P102 – A2LA Policy on Metrological Traceability* • Added Tax Policy under Part C, Section II. Assessment Process

Attachment 2 - R102 - Conditions for Accreditation

CAB NAME: _____

MASTER ID: _____ CERT NO(s): _____

(based on ISO/IEC 17011)

To attain and maintain accreditation, an applicant must agree to:

1) Afford accommodation and cooperation as is necessary to enable A2LA to verify compliance with the requirements for accreditation including provision for examination of documentation (including documents that provide insight into the level of independence of the applicant from any other related activities undertaken by their organization, where applicable) and access to all calibration and testing areas, equipment, records and personnel (including arrangements for witnessing accredited activities when requested and practicable) for the purposes of assessment, surveillance, reassessment, resolution of complaints, and fulfillment of Mutual Recognition Arrangements (MRA/MLA) and/or specifier requirements;

2) Comply at all times with the criteria, relevant requirements documents (e.g., *R103 – General Requirements: Proficiency Testing for ISO/IEC 17025 Laboratories*, *R105 - Requirements When Making Reference to A2LA Accredited Status* and *P102 – A2LA Policy on Metrological Traceability*), and conditions for accreditation;

3) Maintain impartiality and integrity;

4) Retain all quality records and technical records supporting reported results (as defined in the relevant management system standard(s) such as ISO/IEC 17025, ISO 15189, ISO 17020, etc.) throughout the period between A2LA full assessments bearing in mind that adequate records (e.g. measurement uncertainty estimates, complaint records, etc.) must be available to demonstrate full compliance with the requirements for accreditation;

5) Claim that it is accredited only in respect of services for which it has been granted accreditation and which are carried out in accordance with these conditions;

6) Pay such fees as established by A2LA, including an upfront deposit determined upon review of any prior credit and/or payment history with A2LA *(Note: Any taxes levied by the applicant's taxing authority are to be paid by the applicant in addition to the amounts billed by A2LA for services and expenses)*;

7) Not use its accreditation in such a manner as to bring A2LA into disrepute and not make any statement relevant to its accreditation which A2LA may consider misleading or unauthorized;

8) Upon suspension, withdrawal or expiration of its accreditation (however determined) discontinue its use of all advertising matter that contains reference thereto, return any certificates and scopes of accreditation to A2LA. In addition, Product Certification Bodies must notify any affected customers of the change in their accredited status;

9) Not use its accreditation to imply product approval by A2LA;

10) Endeavor to ensure that no certificate or report, nor any part thereof, is used in a misleading manner;

11) In making reference to its accreditation status in communication media such as advertising, brochures, comply with the requirements of A2LA;

12) Inform A2LA headquarters within 30 days and in writing of changes or pending changes in any aspect of the organization's status or operation that affects the organization's legal, commercial or organizational status; organization or management (e.g., managerial staff); policies or procedures, where appropriate; premises; personnel, equipment, facilities, working environment or other resources, where significant; authorized signatories; or such other matters that may affect the organization's capability, or scope of accredited activities, or compliance with the criteria, requirements and conditions for accreditation;

13) Carry out any adjustments to its procedures in response to due notice (by A2LA newsletter, email and/or hardcopy) of any intended changes by A2LA to the criteria, requirements, or conditions for accreditation, in such time as in the opinion of A2LA is reasonable.

14) Not provide accreditation services to any standard used by A2LA as a basis for accrediting organizations (e.g., ISO/IEC 17025, ISO 15189, ISO/IEC 17065, ISO/IEC 17043, ISO Guide 34, ISO/IEC 17020) when those services may affect the impartiality of either party. *(NOTE: It is recognized that an organization may have to evaluate subcontractors/external resources to confirm that they meet the organization's requirements, which may include accreditation standards such as ISO/IEC 17025. Documentation issued to subcontractors/external resources as a result of a successful evaluation shall clearly state that this is not certification or accreditation in accordance with ISO/IEC 17011.)*

Indemnity and Limitation of Liability:

The applicant agrees to hold harmless and indemnify A2LA against any and all claims and actions arising out of the applicant/accredited organization's application to or accreditation by A2LA, including without limitation, expenses, judgments, fines, settlements and other amount actually and reasonably incurred in connection with any and all liabilities, suits, losses, damages, demands or actions arising or resulting from the applicant/accredited organization's application to or accreditation by A2LA or any actual or alleged breach of these Conditions for Accreditation, where the information presented by the applicant is fraudulent, misleading or deceptive. The above indemnification does not include indemnification of A2LA against a claim caused by the negligence or fault of A2LA, its agent or employee, or any third party under the control or supervision of or acting in concert with A2LA, other than the applicant/accredited organization or its agent, employee or subcontractor.

The applicant further acknowledges that A2LA and its representatives do not warrant and have no liability or responsibility for any loss or damage arising out of or relating to its accreditation services, except if such loss or damage results from gross negligence by A2LA.

In order to apply, The applicant's AUTHORIZED REPRESENTATIVE and the AUTHORIZED DEPUTY REPRESENTATIVE must agree to the above conditions for accreditation and statements of indemnity and limitation of liability and must attest that all statements made on the application are correct to the best of his/her knowledge and belief. An accredited organization's AUTHORIZED REPRESENTATIVE and AUTHORIZED DEPUTY REPRESENTATIVE is an official who represents the organization in all matters related to maintaining A2LA accreditation. This official is A2LA's primary point of contact with the organization. An Accredited Organization's Authorized Representative shall be in a position of authority to ensure that the organization complies with the A2LA criteria. Furthermore, this representative is responsible for ensuring that all of the relevant conditions for accreditation are maintained.

As the applicant Organization's Authorized Representative, I agree to the above conditions for accreditation. I attest that all statements made on this application are correct to the best of my knowledge and belief.

_____	_____	_____
AUTHORIZED REP. NAME (PRINTED)	AUTHORIZED REP. SIGNATURE	DATE

As the applicant Organization's Authorized Deputy Representative, I agree to the above conditions for accreditation. I attest that all statements made on this application are correct to the best of my knowledge and belief.

_____	_____	_____
AUTHORIZED DEPUTY NAME (PRINTED)	AUTHORIZED DEPUTY SIGNATURE	DATE

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DOCUMENT REVISION HISTORY

DATE	DESCRIPTION
5/08/14	Revised condition #14 to replace "should" with "shall" in regards to the documentation submitted to approved external resources and replaced the A2LA P101 reference to R105.
4/14/15	Updated title of P102.
12/16/15	• Added "Note" to Condition #6. • Added section on indemnity and limitation of liability.

Attachment 3 - A2LA 17011 Signatory Status –

ILAC, APLAC, IAAC

ILAC MUTUAL RECOGNITION ARRANGEMENT

SIGNATORIES

We, the undersigned, endorse the terms of the ILAC Arrangement and undertake, to the best of our ability; fUlfillment of its objectives.

Accreditation Body: American Association for Laboratory Accreditation (A2LA)

Economy: USA

Scope and date: Testing ISO/IEC 17025 and ISO 15189-2 Nov.ember *200(}*
Calibration IS0/1EC 17025-2 November 2000
Inspection ISO/IEC 17020-24 October 2012 ,

Authorised Representative:

Signature: Date: 25 October 2012

Chairman, ILAC Arrangement Council:

Sig ature: _____ **Date:** *25* October 2012

InterAmerican Accreditation Cooperation

Be it known that:

American Association for Laboratory Accreditation

has been accepted as a Member of the

InterAmerican Accreditation Cooperation

Multilateral Recognition Arrangement

for

Accreditation Bodies of Testing and Calibration Laboratories

The Member on behalf of which this sheet is signed commits itself to comply with the requirements and /)obligations of members of the IAAC MLA:

!f/O

Mr. Peter Unge/
October, 2002

\.\ U] +]

M !ribel L fltz r.artff)ez
Ch ir ,_/
InterA erican Accr ditation Cooperation
October, 2002

InterAmerican Accreditation Cooperation

SIGNATORIES:

Signed on behalf of the following member:

SIGNED:

NAME: Peter Unger

ORGANIZATION: American Association of Laboratory Accreditation

ECONOMY: United States of America

DATE: 24 October, 2004

SIGNED:

NAME: Maribel LÓD4 Z

POSITION: IAAC Chair

DATE: 24 October, 2002

APLAC MUTUAL RECOGNITION ARRANGEMENT

AN ARRANGEMENT TO GRANT RECOGNITION

Having fulfilled the requirements of the APLAC Mutual Recognition Arrangement, **A2LA, United States of America,** is a signatory to the Arrangement.

APLAC MRA signatories:

(i) use equivalent procedures under ISO/IEC 17011 in the accreditation of laboratories against ISO/IEC 17025, medical laboratories against ISO 15189, inspection bodies against ISO/IEC 17020, reference material producers against ISO Guide 34 and proficiency testing providers against ISO/IEC 17043;

(ii) recognise, within the scope of recognition of this MRA, the accreditation of a laboratory, inspection body, reference material producer or proficiency testing provider by other signatories as being equivalent to an accreditation by its own organisation;

(iii) recommend and promote the acceptance by users in their economies of endorsed reports and certificates issued by laboratories, inspection bodies, reference material producers and proficiency testing providers accredited by APLAC MRA signatories;

(iv) investigate complaints initiated by a signatory resulting from reports or certificates issued by their accredited laboratories, inspection bodies, reference material producers or proficiency testing providers; and

(v) inform one another, as soon as possible, of any significant changes in the status and/or operational practices in their accreditation bodies.

Accreditation Body: American Association for Laboratory Accreditation - A2LA

Economy: United States of America

Scope of Recognition: Testing/Calibration; Inspection; RMP; ISO 15189; PTP

Date of Signing APLAC MRA: 19 November 1997; 13 September 2006;
6 December 2007; 13 May 2010; 25 June 2014

Nigel Jou
APLAC Chair

Attachment 4 - ILAC G21 (09-2012)

Cross-Frontier Accreditation Principles for Cooperation

ILAC-G21:09/2012

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PREAMBLE

This guidance document was first endorsed by the ILAC General Assembly in 2001, as a code of good practice for ILAC member bodies (ILAC Decision GA 5.19). This document has been revised and approved for publication after being endorsed by the ILAC membership.

PURPOSE

1. The ILAC Mutual Recognition Arrangement (the Arrangement) is designed to ensure that endorsed test reports and calibration certificates issued by laboratories, and endorsed inspection reports issued by inspection bodies accredited by ILAC Full Members (i.e. signatories to the ILAC Arrangement) under their defined scopes of accreditation, can be accepted worldwide.

2. ILAC's objective is to offer the benefits of the Arrangement to the market so that duplicate accreditations will not be necessary.

3. For this to be achieved, each accreditation body which is a signatory to the Arrangement provides an equivalent accreditation service. This equivalence is ensured by a peer evaluation process managed under the ILAC Arrangement.

4. The principles set out in this document serve to strengthen the international network of accreditation bodies through the ILAC Arrangement. These accreditation bodies accredit laboratories and inspection bodies that provide conformity assessment activities in different economies. The principles seek to assist the objective of facilitating international trade by removing technical barriers to trade.

AUTHORSHIP

This document has been prepared by the ILAC Arrangement Committee (ARC).

1. CROSS-FRONTIER ACCREDITATION – PRINCIPLES FOR COOPERATION

1.1 ILAC is the international forum for accreditation bodies providing accreditation of laboratories and inspection bodies. ILAC provides the global perspective and infrastructure that supports the demonstration of technical competence and the equivalence of the accreditation worldwide performed by signatories to the ILAC Arrangement.

1.2 The signatories to the ILAC Arrangement generally provide laboratory and/or inspection body accreditation to their domestic markets. Accreditation bodies may, however, have a policy to meet the demand for accreditation from a broader market that may arise in exceptional cases.

2. APPLICATION FOR ACCREDITATION AND RESOURCE REVIEW

2.1 Some examples of when a laboratory or inspection body might apply for accreditation from a body outside its country (economy) are:

a. There is no domestic accreditation body.
b. The domestic accreditation body does not offer accreditation for the required scope.
c. The domestic accreditation body is not a signatory to the ILAC Arrangement.
d. The laboratory or inspection body's clients require accreditation by a specific accreditation body, and will not be persuaded to accept the domestic equivalent.
e. The laboratories or inspection bodies are part of a group who wants all their laboratories or inspection bodies to be accredited by the same accreditation body.

2.2 Where one or more domestic accreditation bodies that are ILAC Arrangement signatories for the requested scope of accreditation exist in the country (economy) of the applicant, and the applicant still elects to apply for accreditation from the foreign accreditation body, the foreign accreditation body should in accordance with the requirements to have a program to promote the ILAC Arrangement with major stakeholders (as specified in IAF/ILAC A2) take the following steps before accepting the application:

a. Enquire if the applicant is aware of the domestic accreditation body.
b. Suggest that accreditation provided by a domestic accreditation body would better take account of local factors and conditions, where relevant.
c. Point out the equivalence of the domestic accreditation body's accreditations as demonstrated through the ILAC Arrangement.
d. Point out that, according to the principles in part 3 of this document, and even if the application is accepted, the local accreditation body may be involved in the accreditation process.

2.3 The foreign accreditation body should proceed with the application only if the applicant persists in requiring accreditation by the foreign accreditation body.

3. COOPERATION WITH THE DOMESTIC ACCREDITATION BODY

3.1 The foreign accreditation body shall seek acceptance from the applicant before consulting with the domestic accreditation body.

3.2 When an accreditation body that is a signatory to the ILAC Arrangement decides to provide accreditation services outside its country (economy), it should ensure that appropriate assessors are used, taking into account factors such as language, local laws and regulations, culture, etc., as well as technical competence requirements. The foreign accreditation body should also consult the domestic accreditation body and take into consideration any relevant accreditation requirements that the domestic accreditation body has set to suit the local conditions.

3.3 The preferred ILAC approach to ensure access to relevant competence is to cooperate to the greatest extent practicable with the domestic accreditation body by using its personnel, as appropriate, on the assessment team.

3.4 If it is not possible to include personnel from the domestic accreditation body on the assessment team, cooperation with the domestic accreditation body should be extended to invite the domestic accreditation body to observe the assessment, subject to acceptance by the applicant.

3.5 Where the domestic accreditation body is not a signatory to the ILAC Arrangement, or where the scope of the domestic accreditation body does not cover the requested activity, the foreign accreditation body should try to cooperate with the domestic accreditation body according to these principles so as to provide the domestic accreditation body with the opportunity to gain experience to apply for the ILAC Arrangement.

3.6 The principles for cooperation among ILAC member bodies stated in this document also apply for reassessment and surveillance activities performed by an accreditation body outside its country (economy).

3.7 In all cases, the objective of an eventual change, with the accreditation moving to the relevant domestic accreditation body, should be borne in mind when the domestic accreditation body becomes a signatory to the ILAC Arrangement for the relevant scope, or when the applicant laboratory or inspection body so chooses.

Attachment 5 - P111 - Technical Consensus Decisions from the Electromagnetic Advisory Committee-EMAC

This document has been created and reviewed by the A2LA Electromagnetic Advisory Committee (EMAC). It provides a summary of consensus decisions voted on and approved by the EMAC and A2LA Criteria Council for use by laboratories and assessors.

I. A2LA Requirements

1.) Customer supplied operating equipment which the testing laboratory is not responsible for should be listed in the test report. *(2011 EMAC Meeting)*

2.) For a test chamber with a limited search height, requirements would not be met to allow for accreditation without a limitation being noted on the scope of accreditation. (*2007 EMAC Meeting*)

3.) Normalized Site Attenuation (NSA) is not an in-house calibration and the requirements of Section T4 of P102 – A2LA Policy on Metrological Traceability do not apply. (*2008 EMAC Meeting*)

4.) Within IEC 61000-4-3, it is agreed that uniform field measurement is not considered a calibration, and T4 is not required when utilizing properly calibrated equipment. (*2008 EMAC Meeting*)

5.) Within IEC 61000-4-6 it is agreed that the test signal level measurement is not considered a calibration, and T4 is not required when utilizing properly calibrated equipment. (*2008 EMAC Meeting*)

6.) Power Meters and Bandwidths -When a laboratory is being assessed for RF power measurements; the lab needs to know the bandwidth of the power sensor and power meter display unit as a system. Depending on the application, the bandwidth of the power measuring system needs to be calibrated (traceable). (*2008 EMAC Meeting*)

7.) Calibration of SAR reference dipoles is required (ISO/IEC 17025, sec 5.5.2/5.6.1). Calibrations not meeting P102 - A2LA Policy on Metrological Traceability shall have a deficiency cited. (*2010 EMAC Meeting*)

8.) Where tolerances on parameters are not defined in contract review, or in the referenced documents (test methods), the tolerances listed in the following table shall apply (*2011 EMAC Meeting*):

Default Tolerances for EMC Testing

Supply voltage and current	±5%
Time interval, distance	±5%
Resistance, capacitance, inductance, impedance	±5%
Test parameters for RF field strength, Electrical or magnetic field strength, injected current, power, energy, transient voltage amplitude (if adjustable)	+5% -0%

Any commercial measurement devices (ruler, tape measure, etc.) can be used for the distance measurement. No calibration is required for these devices.

I. A2LA Requirements (continued)

9.) "Verification" for the purpose of determining compliance with specifications does not exist for equipment used in EMC testing. The only options are T4-compliant in-house calibrations, or external calibrations (*2012 EMAC Meeting*)

10.) Test systems that focus on the evaluation of protocol content (i.e., syntax, semantics, and synchronization of communication) *do not require calibration*. Description of protocol testing per A2LA R214: *Testing control to determine if a computer application or devices has the capability of accurately sending and receiving messages as defined in a documented specification* (*2012 EMAC Meeting*)

11.) For test methods to be listed on A2LA scopes of accreditation which were not originally published in English, the laboratory must meet one of the following conditions (transition period of this requirement to be applicable at next renewal assessment. For new applicants effective immediately) (*2013 EMAC Meeting*):

a. Obtain an English translation of the test method.
b. If an English translation is not obtained, the lab shall have an employee or contracted person who is/are fluent in both English and the "native" language that the test method is published in, and is technically competent and can explain the given test in both languages if required. This individual would need to be present during on-site assessments.
c. Obtain a published document from an appropriate regulatory authority, or standards development organization, that identifies the foreign test method as equivalent to an alternate test method published in English

12.) Laboratories performing Field Interoperability Testing (Coverage Testing) shall meet, and shall be assessed to the requirements defined in *R104 – General Requirements – Accreditation of Field Testing and Calibration Laboratories*. (*2014 EMAC Meeting*)

II. External Organizational Matters (FCC, NIST, VCCI, AEMCLRP, etc.)

1.) FCC:

a. No deficiencies are to be referenced directly against the FCC checklist. Deficiencies are to be referenced to a specific requirement in the test method (i.e. C63.4 requirement, not "question X" on FCC checklist). (*2009 EMAC Meeting*)

b. If a deficiency that is cited in conjunction with the FCC checklist cannot be traced to a specific test method, the "N" is to be marked on the checklist and in the comments section of the checklist, provide an explanation for why a deficiency was cited. (*2009 EMAC Meeting*)

c. A2LA will allow assessors to use their Assessor Master Code in lieu of their name for FCC checklist identification purposes. (*2010 EMAC Meeting*)

d. As of January 1, 2016, all assessments of laboratories seeking to list CFR 47 FCC Part 15 and/or Part 18 on their scope of accreditation shall include completion of the C216 – Specific Checklist – FCC Technical Assessment Evaluation (*2015 EMAC Meeting*)

II. External Organizational Matters (FCC, NIST, VCCI, AEMCLRP, etc.) (continued)

2.) VCCI:

a. Assessors shall clarify frequency range for VCCI V-3 on scopes, and Assessors shall verify SVSWR reports during the on-site assessment for labs testing over 1 GHz. Assessors shall notify laboratories prior to coming on site that the SVSWR reports (> 1 GHz) must be prepared for review – submitting the reports prior to coming on site would be beneficial. (*2010 EMAC Meeting*)

3.) ANSI ASC C63:

a. A2LA recognizes the ANSI C63 committee's published interpretations and explanations as "normative" requirements (*2013 EMAC Meeting*)

III. Specific Test Methods

1.) ANSI C63.4:

a. ANSI C63.4 requires verification of turntable position and verification of the antenna height (at 1 and 4 m). Azimuthal verification must be verified to be less than 22.5 degrees when used in a non-continuous process. If the test report contains specific height and angle measurements, the lab must have adequate verification on its numbers. (*2003 EMAC Meeting*)

b. Assessors will cite a deficiency against ANSI C63.4-2009 clause 8.3.2.2 (and ANSI C63.4-2003 clause 8.3.1.2) in reference to "keeping the EUT in the cone of radiation" if the antenna is not bore-sighted (automatically or using other means) during the measurement. *(Revised per ANSI Interpretation –"C63 4 - April 2011 - cone of radiation", available at: http://c63.org/standards_development.htm)* (*2013 EMAC Meeting*)

c. ANSI C63.4 pre-scan data, if done in a chamber which does not meet NSA requirements, must be clearly noted as not complying with C63.4 if used in an endorsed test report (per A2LA Advertising Policy). ANSI C63.4, sec. 8.3.2.1, does allow pre-scan testing to be performed, but if the EUT is relocated to a final testing site (which meets NSA compliance requirements), the full frequency span must be re-checked. (*2011 EMAC Meeting*)

2.) CISPR 16:

a. Laboratories must provide objective evidence that their LISN meets the requirements of CISPR 16-1-2, clause 4.7.1, table 6 for isolation, and requirements of CISPR 16-1-2, clause 8 for voltage drops. Data sheets are acceptable for this purpose. (*2010 EMAC Meeting*)

III. Specific Test Methods (continued)

3.) CISPR 22:

a. Test Site Validation Above 1GHz Using SVSWR Measurement - - CISPR 22, Version 5.2 clearly states that test site validation above 1 GHz is required. The committee was in agreement and as such, laboratories should be validating the test site and would be expected to provide this information for review during on-site assessments. (*2008 EMAC Meeting*)

b. It was agreed that a deficiency would not be cited and an exception on the scope would not be required for a laboratory testing Class A or Class B devices at a distance of less than 10 Meters (*2015 EMAC Meeting*)

4.) MIL-STD-461:

a. An EMC bond requires low DC resistance (2.5 milliohms) and low RF impedance (length to width ratio of 5:1) according to MIL-STD-461. (*2003 EMAC Meeting*)

5.) IEC 61000-4-2:

a. It was agreed that no deficiencies would be cited against a laboratory that does not use a 1 GHz instrument to verify the ESD equipment (per EN 61000-4-2). (*2001 EMAC Meeting*)

b. A laboratory is not required to have any calibration on their barometric pressure meter for ESD testing, as the EMAC has decided that barometric pressure does not have a significant impact on the result of the testing. (Reference IEEE Standard 4) For example, the laboratory may use barometric pressure reporting from an off-site pressure reporting source, such as a local airport weather station. (*2011 EMAC Meeting*)

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DOCUMENT REVISION HISTORY

DATE	DESCRIPTION
05/30/2014	- Clarified that the table under Part I, Item 8 is "for EMC Testing" and changed the word "length" to "distance" in the second line of the table. - Added Items 9 (re: in house verification), 10 (re: protocol equipment calibration) and 11 (translation requirements) under Part I - Added Item 3 (normative C63 publications) under Part II
09/04/2014	- Added Item 12 (field interoperability testing) under Part I
08/10/2015	- Name changed from "Electro-Mechanical Advisory Committee" to "Electromagnetic Advisory Committee" - References to "T9" in Part I Items 3, 4, 5, and 9 were replaced with "T4" - Replaced "A2LA's Traceability Policy" to "P102 – A2LA Policy on Metrological Traceability" in Part I Items 3 and 7 - Added EMAC Meeting dates to Part I Items 8, 10 and 11, Part II Items 2a and 3a, and Part III Item 1b - Added Item 1d (use of FCC Checklist) under Part II - Added Item 3b (CISPR 22) under Part III

Date: August 18, 2016

Attn: Chief of the Office of Engineering and Technology,
United States Federal Communications Commission

Re: A2LA response to FCC requests dated 08/12/2016 (Tracking Number 130491)

1.) Please confirm that this is the full list of countries that recognition is requested for. As the FCC will be drafting a public notice and putting the information about the request out for public comment, adding additional countries after the public notice goes out, may require the process to start from the beginning for the additional country recognitions.

A2LA Response: We confirm that this is the full list of countries that recognition is requested for. The list includes:

- People's Republic of China
- India
- Philippines
- Thailand

2.) The information provided indicates that there are 14 assessors but information is only provided for six. Please identify the additional assessors that may be doing assessments in the identified countries.

A2LA Response: Identification of A2LA's assessors that may be doing assessments in the identified countries is as follows. Please note this list now includes 15 individuals instead of the 14 originally mentioned in our application:

- Nathan Belsher
- Michael Bosley
- Thomas Dickten
- CK Li
- Nee Salam
- Dan Sigouin
- David Waitt
- David Zimmerman
- Peter Boers
- David Britton
- Andreas Eberhard
- Benoit Nadeau
- Werner Schaefer
- Yukio Tanuma
- David Wilson

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3.) In the revised request for recognition it is noted that the information about the assessors has been removed. The names of the assessors and a brief description of their applicable experience will need to be provided for the public notice. The full bio or resume is not required.

A2LA Response: Please refer to "***ATTACHMENT 1 – assessor biosketches***" to this document, providing a summary biosketch for each of the 15 assessors noted in item 2 above.

4.) The General requirements document R101 addresses branch and satellite laboratory types and identifies a document P106 – Branch System Policy. Please provide the P106 to be reviewed and included in the public notice.

A2LA Response: Please refer to "***ATTACHMENT 2 - P106 - Branch System Policy***" to this document, providing a copy of the requested policy.

5.) The information provided addresses the ILAC Cross Frontier Accreditation Principles for Cooperation. Please provide more information as to how you would work within the cross frontiers principles for each of the requested countries that already have accreditation bodies. It is possible the test firm accrediting bodies in some of the countries identified in this request will apply to the FCC and become recognized to assess testing laboratories in their own countries. Please clarify how this would be handled if this were to occur and if it is addressed in your procedures.

A2LA Response: A2LA applies the guidance outlined within *ILAC 21:09/2012 Cross Frontier Accreditation- Principles for Cooperation,* for any potential applicant organization that is located in a country outside of the United States (whether or not they are located in a country listed within this request for recognition).

There are many reasons why an organization outside the US may seek accreditation from A2LA. These typically include, but are not limited to the following:

- There is no accreditation body in its economy;
- The local accreditation body/bodies do not offer accreditation for the desired scope of accreditation;
- The local accreditation body is not a signatory to the relevant international Mutual Recognition Arrangement(s);
- The organization's clients demand A2LA accreditation and will not be persuaded to accept our MRA partners;
- The organization is part of a chain of organizations with a single owner that wants all the organizations to have the same accreditation and is not willing to work with MRA partners.

A summary of A2LA's procedures (SOP 038) for handling international requests for accreditation is outlined as follows:

Foreign requests for accreditation by A2LA may be received either prior to, or in conjunction with, submission of a formal Application for Accreditation. When a request for accreditation is received before A2LA receives a formal application, the following steps are followed to allow the organization to make an informed decision about its choice of accreditation body. When no prior contact from the organization was made, and the Application is received at A2LA unannounced, the following steps are followed before the application is processed.

a.) A2LA first determines if there is an accreditation body in the applicant's economy that: a) can cover the requested Scope of Accreditation, and, b) is a Mutual Recognition Arrangement (MRA) partner of A2LA. This information can normally be found on the A2LA web site and the related links to partner accreditation bodies.

b.) If there is an MRA partner accreditation body in the applicant's economy that has the capability to cover the requested scope of accreditation, A2LA alerts the applicant that there is an MRA partner Accreditation Body in the organization's home economy.

c.) If the applicant still specifically requires A2LA accreditation, the application is accepted and the AB in the organization's economy is contacted to alert them that A2LA will be assessing a CAB in their economy. (Confidentiality of the CAB's identity is maintained if requested by the applicant CAB.)

6.) As the FCC recognition is only for Non-MRA countries, please provide procedures that address what steps <u>will need to be taken to transition to an MRA if an MRA becomes operational with any of the recognized countries</u>. Note that if an MRA becomes operational, new accredited testing laboratories will have to be designated to the FCC under the MRA. Testing laboratories already recognized will be required to transition to operation under the MRA. Also, note when a new MRA becomes operational, it is up to the foreign MRA partner as to whether they will accept assessment reports from assessment bodies outside their territory.

<u>A2LA Response:</u> This request (underlined above) appears to outline a hypothetical situation for MRA's that are not yet signed or operational at this time with the countries listed in our request for recognition. Based on our experience and understanding, governments from each economy are responsible to outline the procedures for designation and recognition of test firms, and the accreditation bodies are then required to follow those procedures. We therefore cannot provide formal copies of procedures that are in place within our management system as a response to this request; but will attempt to outline our "expected process" if/when these situations occur. Of important note is that A2LA does have experience in this scenario, as A2LA previously designated accredited test firms to the FCC who were located in Israel; which occurred prior to the implementation of the U.S.-Israel MRA (that entered into force on December 12, 2013). Prior to that MRA signing, the process for designating the Israeli test firms was the same process A2LA used in designating U.S. test firms (section 3.d (page 6) as outlined on our original petition for recognition).

If A2LA becomes recognized as a TFAB to accredit labs in the countries identified in this request, we presume that our designation procedures for domestic test firms would be very similar to the designation procedures for test firms in non-MRA countries (depending on guidance from the FCC). If an MRA later becomes operational with any of these countries, we understand that A2LA would no longer act as the designating authority, and that a new designating authority would be defined under the terms of the MRA. In the case of the Israeli labs referenced above, during the implementation of the new MRA, A2LA communicated openly with FCC OET staff in order to ensure that the lab's recognition did not lapse before the new designating authority could submit their designation under the MRA. Upon successful designation by the Israeli designating authority, A2LA then withdrew (expired) our designation of the relevant test firms on the FCC website. We continue to accredit laboratories located in Israel, and are a recognized accreditation body under the US-Israel MRA for this role. A2LA supports the designation process for the new designating authority in Israel by providing the test firms with a copy of the FCC technical

checklist used during our assessments, as well as a scope of accreditation that identifies the relevant FCC rule parts the lab is accredited for – this information is then supplied to the new designating authority for submission to the FCC. We understand that future MRA's with other economies may not develop and transition in this same manner, but we are open to cooperating with the FCC, test firms, and new designating authorities during the transition phase.

We also understand that when a new MRA becomes operational, the terms are usually slightly different for each economy, and the foreign designating authority may or may not accept assessment reports from accreditation bodies located outside their economy. We would strongly urge those organizations who are responsible for development of initial MRA text (FCC, NIST, and USTR), to consider the precedent that has been set in so many other economies (i.e. Australia, Japan, Canada, and Israel) for accepting assessment reports from accreditation bodies located outside their country. As we outlined in our response to item 5 above, there are usually several reasons that a lab may want (or need) to use an accreditation body outside their local economy. To force the use of a "local" accreditation body in these economies will most likely cause the need for the labs to hold accreditations from multiple accreditation bodies, and thus increase costs to their organization – which is ultimately passed on to the consumers – a consequence that runs against a key goal of our MRAs to begin with.

7.) It is noted that the SOP 038 procedure Responding to International Accreditation Requests was removed from the original request. It appears this is applicable and should be provided as part of the public notice. Please provide a copy for the public notice or provide a justification as to why it should not be included.

A2LA Response: We prefer not to provide a copy of SOP 038 for public notice, but would be willing to submit to the FCC under confidentiality procedures if necessary. In our response to item 5 above, we have provided a summary of the steps from SOP 038 regarding our considerations for operating in foreign countries. We feel that this information is very similar to the text of our SOP and should provide sufficient detail to allow for an understanding of our process. Other sections of SOP 038 not summarized in item 5 above, address A2LA's processes for estimating expenses, assigning fees, and generating quotes to laboratories; which we do not wish to become publically available information due to its confidential nature. We believe the original intent of the requirement to apply under 47 CFR, Part 2.949 (Item 3.d in our original request), was to outline our "considerations for operating in foreign countries" - which did not request copies of official methods or procedures. We respectfully request the FCC to reconsider its request for an official copy of SOP 038, and hope that this is sufficient justification to support our request.

We thank the FCC for its time and consideration of our initial submittal. If there is any additional information we can provide on these topics, please feel free to contact us. We eagerly await your feedback.

Respectfully,

Adam Gouker
A2LA Accreditation Manager, Electrical
agouker@A2LA.org

ATTACHMENT 1 – assessor biosketches

1.) Nathan Belsher

With more than 30 years of service to the IT, consumer electronics, and Telecom industries as an EMC & Product Safety engineer, Mr. Belsher is currently a Dallas, Texas based independent consultant in the area of regulatory compliance, EMC & Product Safety design, Design for the Environment, Energy Efficiency, and quality management. For the past 10 years he has served as an A2LA assessor for electrical & mechanical test labs both domestic and international. In addition he is currently a member of the A2LA Accreditation Council for test lab accreditations.

It may be noted that his previous corporate employment was the European Regulatory Compliance Manager for Belkin International. While resident for 3 ½ years in Amsterdam, The Netherlands he provided senior guidance for EMC, Product Safety, Energy Efficiency, and product sustainability for Europe, the Middle East, and Africa. He was the liaison for 3rd party laboratory approvals and testing to international compliance requirements. He has used the services of several European Notified Bodies including TÜV Rheinland, The Netherlands and TÜV Rheinland UK. During his tenure in Europe he interfaced with OFCOM, the telecom regulatory in the UK including attending industry briefings at the OFCOM office in London. For CE mark EMC market surveillance he had direct interface with the German Network Authority, the French Network Authority, and OFCOM.

Mr. Belsher has worked as a test engineer and laboratory manager in the EMC and product safety laboratory environment. His experience includes setting up EMC compliance labs for DELL computer and Datapoint Corporation. His laboratory capabilities and procedures, and test reports have been approved by FCC, VCCI, NEMKO, UL and other agencies.

As an EMC engineer he has been a major design contributor to product development during his employ at Siemens Communications, Tellabs, Nortel Networks, Cisco Systems, Dell Computer, and Texas Instruments with successful Class B approvals. He was responsible for compliance to the European Union EMC Directive, RTT&E Directive, the Low Voltage Directive, and others. As a regulatory engineer and manager he has been active in preparing and signing EU CE Mark Declaration of Conformities since 1996. Prior to this he was successful in obtaining the German VDE Radio Protection Mark on more than 10 IT products for Dell Computer after witness testing by the VDE.

As a presenter he has taught EMC and Product Safety design and test procedures for in company engineers and managers throughout the US, Europe, and Asia.

Industry affiliations include IEEE EMC Society member and NARTE Certified Product Safety and EMC Test Engineer. Previously he was a member of the European CE Marking Association and ICMATEL (a European Telecom industry Compliance group). Educational background includes graduate in the Associate Engineering program at San Antonio College.

Mr. Belsher has held an FCC Advanced Class radio amateur license and a FCC First Class Radiotelephone License with Radar endorsement for many years.

He regularly participates in various industry technical forums, webinars, and symposiums. This includes the IEEE EMC chapter meetings, the annual A2LA Technical Forum, and many of the IEEE EMC Symposiums.

2.) Peter Boers

Peter Boers has more than 40 years of experience in the product regulatory approvals discipline. He started the EMC discipline at Digital Equipment Corporation (now Hewlett Packard), managed regulatory engineering groups and was responsible for the EMC standards and Technology as well as major regulatory efforts, such as the CE compliance program for Europe and the BCIQ requirments for Taiwan. Peter is retired. He has worked as an EMC/RF/Wireles Regulatory engineer/manager/consultant for various high tech corporations.

He was one of the original authors of the CBEMA ESC5 document that lead to the FCC part 15 limits for computing equipment in 1979.

Peter was a past member of ETSI EE4, the DKE committee responsible for VDE 0871/0878 and he was a member and chairman ECMA TC20 as well as the TAG administrator for the USNC for CISPR22.

Peter is also a recognized Bluetooth Assessor (BTA).

Peter has a Masters degree in both Electrical Engineering and in Business Administration.

3.) Michael Bosley

Mr. Bosley is currently employed with Denso International America Corporation, a global automotive components supplier. He is responsible for the EMC technical services and laboratory management in North America. He has specified and lead the creation of EMC facilities in Detroit, Mexico and China. Mr. Bosley is currently responsible for ongoing EMC planning, development, operations, EMC accreditation, OEM recognition and in house calibration. Mr. Bosley has extensive experience in EMC testing, serves on the SAE EMI/EMR standards committees, is a US delegate of the US Technical Advisory Group to CISPR12 and CISPR25, a member of SAE and senior member of IEEE. He has worked in the area of EMC testing, software development and quality assurance with Engineering Degrees from Lake Superior University. Mr. Bosley as patent disclosures for ESD and I/O coupling methods and is an iNARTE certified EMC engineer.

4.) David Britton

Mr. Britton has worked in the field of EMC since 1980. His first 15 years were at TRW Electronics in Colorado testing and designing products for the military to MIL-STD 461 A/B/C and a variety of TEMPEST standards. He became a certified Tempest Professional Level II at TRW. He worked on a variety of cryptographic systems for space and ground deployment. He also worked on a wide variety of commercial products for EMC pre-compliance.

He began work for HP in Vancouver WA in 1995 as a Compliance Test Engineer. In the ensuing years he also held positions as Immunity Test Engineer, Lab Quality Manager, Deputy Lab Technical Manager, EMC Design Engineer and interim EMC Lab Manager. He designed products to comply with a plethora of international standards including CISPR 22 and 24 and their US, EN, JP, KN and AZ equivalents, all the supporting IEC 1000-4-X and 1000-3-X standards specified therein, FCC Parts 2 and 15, ETSI standards for WI-FI, IATA standards for bulk shipping and many others worldwide.

David took an early retirement from HP in 2012. He taught high school AP Java and Introduction to Programming at the Evergreen School District located in Vancouver WA. in 2013 and 2014.

Mr. Britton was the founding secretary for the corporate HP EMC Technical Advisory Group (TAG) and the HP Uncertainty TAG. He has been an officer in the local IEEE EMC Chapter for 12+ years and was the Vice Chair for the 2006 IEEE EMC Symposium in Portland OR. He is a member of the dB Society and a subscriber to many EMC related groups.

5.) Thomas Dickten

Thomas Dickten is currently President of Global Compliance Consulting.

Mr. Dickten has been consulting in the Compliance Regulatory area since April 2010. He specializes in testing laboratory evaluations, global regulatory product requirements and standards (EMC [Electromagnetic Compatibility], Radio Telecommunications and Electrical Safety).
He is also an ISO/IEC 17025 trained Lead Assessor for EMC and Telecom with A2LA (American Association for Laboratory Accreditation), DAkkS Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) and Raad Voor Accreditatie RvA (Dutch Accreditation Council RvA, Netherlands) and an ISO/IEC 17065 trained Lead Assessor for Product Certification (Telecommunication Certification Body program with the FCC, IC, Hong Kong, Singapore and Japan, EPA Energy Star Program) with A2LA.
Mr. Dickten worked as President and Technical Manager for Eurofins Product Service, Inc. providing Engineering Consulting in the area of EMC, Telecom and Electrical Safety from 2003 to 2010. He was a direct consultant of the Notified Body and Telecommunication Certification Body (TCB) Eurofins Product Service GmbH for all technical related issues. Mr. Dickten is an IECEE certified Technical Assessor for all product categories.
As the Technical Manager of the A2LA accredited testing laboratory responsible for developing and managing all testing activities related to EMC (automotive, military, avionic and commercial), Wireless Telecommunication (GSM, CDMA, UMTS, LTE, PCN, DECT, Bluetooth, IEEE 802.11a/b/g/n, Wi-Fi, ZigBee, WiMax, SAR, HAC, NFC and SmartGrids) and Electrical Safety (IECEE CB scheme, Photovoltaics).
He has extensive experience (25 years) in EMC and electrical safety testing according to FCC, Industry Canada, OSHA (Occupational Safety & Health Administration), Japan, Hong Kong, Singapore and European requirements. He also has expertise in RF and microwave testing and calibration as well as Bluetooth and CTIA RF, OTA, Wi-Fi, Battery (IEEE 1625, 1725) and Protocol Conformance testing.
Mr. Dickten received a B.S. degree in electrical communication engineering from the University of Aachen (FH Aachen), Germany in 1991. From 1991 to 1996 he worked as an Engineering Assistant at the Institute of Communication Engineering and Electromagnetic Compatibility (EMC) at the University of Aachen with Prof. Dr.-Ing. Erhard Moeller. He independently supervised and performed research and development work in the area of antenna technology, high-frequency metrology, EMC system design, design and set up of EMC measuring chambers, OATS and benches according to MIL-STD-285, ANSI C63.4, and the series of IEC 61000-4-x standards.

6.) Andreas Eberhard

Mr. Andreas Eberhard is currently employed with Power Standards Labs (PSL), providing Engineering Consulting in the area of EMC, Telecom, Electrical & Mechanical Safety, Reliability Testing as wells as Power Quality. He is conducting technical assessments around the world based on IEC, EN, ISO, UL, CISPER, SEMI and MIL requirements. In addition he is an ISO 9000 lead auditor certified by BSI (UK). PSL also has its own calibration lab.

Mr. Eberhard was formerly employed with TUV Rheinland of North America (1999-2005) as Division Manager Testing Services. He was responsible to obtain and maintain various accreditations such as CB, DATech, NRTL, SCC, VCCI etc. During this time he performed internal and external laboratory audits based on ISO Guide 25 and later ISO 17025.

Prior TUV Rheinland of North America, Mr. Eberhard was employed with TUV Rheinland Japan Ltd. (1995-1999) where he became the EMC & Safety laboratory manager after extensive experience in conducting EMC and safety

testing for all major product categories. He also did set up TUV Rheinland Japans first Telecom and Wireless Testing Lab (UMTS, PCN, DECT, Bluetooth, IEEE 802.11a/b/g, WiFi). During this time he actively was involved in EMC and Safety standards committees.

He gained his first electrical design experience at Wacker Construction (1994-1995) in Germany where he worked as an engineering assistant to design control circuits to be used in an highly radiated environment. EMC Experience in conducted and radiated emissions measurement practice, semi-anechoic chamber verification, measurement of chamber shielded effectiveness and EMI troubleshooting.

Mr. Eberhard has a master degree in electrical engineering and a master degree in global technology management from Universities in Germany and the US.

Andreas Eberhard is well known in the international testing standard and power quality community. He is member of various power quality and safety standard committees around the world.

7.) CK Li

CK Li has over 25 years of experience in the fields of consumer/telecom product design, testing, approval and manufacturing. He has extensive assessor/auditor experience in the evaluation of various 3rd party testing laboratories and OEM/ODM facilities. He developed the EMC & Telecom Labs for Intertek in Hong Kong and Silicon Valley USA, where he served as Engineering & ISO Quality manager for the US west coast operation. This position included the technical operation of the EMC/Telecom test facility, including training/supervision of the technical staffs, test equipment procurement/calibration, ISO/IEC 17025 lab accreditation, keeping current on all relevant FCC/IC, EU Directives, CISPR/IEC/EN, ETSI, ISO, Mil-Std, and Automotive Standards, It also involved working with customers regarding testing methodology, proper equipment configuration, and interpretation of Standards. The position also involved the mitigation of EMC problems and giving presentations on EMC/Telecom/Safety related topics.

From 2002 to 2013, CK was with Kyocera Wireless where he was involved in Antenna/SAR/HAC/EMC/RF design, Regulatory Engineering, Product Compliance and Carrier Technical Acceptance. As the Director of Regulatory Engineering of the A2LA accredited, CCF and CTIA authorized testing laboratory he also responsible for developing and managing all testing activities related to Accessibility, Acoustic, Battery, EMI/EMC, GPS/OTA, HAC, SAR, MIL-STD, Wireless Telecommunications (CDMA, GSM, WCDMA, LTE, Bluetooth, IEEE 802.11a/b/g/n/ac, WiFi, WiMax and NFC) and Product Safety. He also represented Kyocera to several industry committees including ATIS, CCF, GCF, PTCRB, TCBC, IEEE 1528, CTIA OTA, Battery and Reliability.

CK is currently the Principal at Qual-Comp Li Consulting and Senior Principal Engineer at Nextivity where he is in charge of all Compliance Testing, Global Homologation and Type Approval, with strong focus on FCC/IC, 3gpp and EU CE Marking, including EMC, RTTE, LVD, ErP, RoHS, WEEE and REACH.

CK holds a BSc (Hons) in Electronics Engineering from University of Kent at Canterbury, UK. He is proficient in both English and Chinese.

8.) Benoit Nadeau

Benoit Nadeau has 30 years of experience in EMC testing and management and more than 10 as an ISO/IEC 17025 assessor in EMC, Radio tests and Automotive EMC and electrical calibration. To date he has participated in more than a hundred assessments. Formerly manager of the Matrox Conformity Group and responsible for all regulatory approvals in EMC and safety of all products of Matrox, Mr. Nadeau was the Technical and Quality

Manager of the A2LA accredited EMC Laboratory for 12 years. He was also the manager for the metrology laboratory and component engineering groups. He currently works in the Telecom Group of a major Power Utility, responsible for EMC problems as well as RF Safety for workers and the public.

Mr. Nadeau is a Member of the Canadian National Standards Committee and reviewer for CISPR A, CISPR H, CISPR I and TC77B of the IEC. He has a bachelor degree in electrical engineering (University Laval, Quebec) and master degree in electromagnetic compatibility (École Polytechnique of Montreal). He is a founding chairman of the Montreal chapter of the IIEEE EMC Society acted as chairman of the 2001 IEEE International Symposium on EMC and Treasurer for the 2007 IEEE International Symposium on EMC. He currently acts as the Secretary for the IEEE EMC Society Special Committee 1 on EMC

9.) Nee Salam

A. Nee Salam (Adeniyi Salam) is the CEO/CTO of Infinite Outlook (dba Global Compliance Solutions). He has been involved in various aspects of standards, compliance tastings, Quality Management, Accreditation and Metrology for more than thirty years. His work experience gained in laboratories and corporations and private sectors include but not limited to engineering management and quality demonstration/documentation/audits and Metrology in various aspect of Electrical and Mechanical test equipment. Mr. Salam verse laboratory test experience focused EMC/EMI (commercial, avionic, military and automotive), Radio Frequency, Product Safety, Telecommunications and wireless Telecommunication (GSM, CDMA, UMIT, LTE, PCN, DECT, Bluetooth, IEEE 802.11, Wi-fi, ZigBee WiMax). His technical expertise also include Environmental, Mechanical, Automotive systems and components. He is an internal consultant for EMC testing and radio Frequency and microwave testing and calibration, Well versed in International traceability for calibration of AC/DC Voltage, AC/CD Current, Resistance, Capacitance and inductance. He worked extensively in power Transmission & Distribution Systems.as well as development, maintenance and implementation of global laboratory quality systems. His technical and management competencies include a lead quality and technical assessments within ISO/IEC 17025, FCC Part 2, 15, 18, 22, 24, 27, 90, 95; CISPR 22; AS/NZS 3548; Immunity suites tests-IEC 61000-series 4…11; MIL-STD-461/462; Product Safety TS- 9000, ANSI/NCSL Z540-1, MIL STD 45662A, and ISO/IEC 17065.

He possesses more than twenty years in multi-discipline engineering management of AC/DC power and heavy industry designs in, electrical, instrumentation and control; automation, equipment qualification, Reliability and electrical equipment. Lead assessor and quality demonstration for critical electrical safety related equipment in automotive industry. Provided numerous technical and quality training for utilities industries, manufacturers, laboratories, industrial firms, and business.

Mr. Salam's experience relating to Test Lab assessments, Calibration Lab assessments, Gap Analysis assessment including but not limited to EMC, and EME/SAR testing, fire testing, environmental simulation/endurance testing (temperature/humidity/vibration)-Reliability, HALT/HASS testing, Tensile Strength, Impact Tests, Thermal Aging, Seismic Simulation, Vibration testing, Salt Exposure, Leakage Current determination, Elongation, Weathering, Photometry, Heat Deflection, Volume Resistivity, Permittivity, Acoustics, etc.

Mr. Salam has postgraduate engineer degrees. His professional and work experiences have been with IBM, Nortel, Electric Power Authority, RELTEC OSP, FORE Systems/Marconi Communication, Panasonic Automotive Systems and currently independent and Regulatory Compliance as Senior and technical Lead Assessor/Auditor. He has received Registered Professional Electrical Engineer certification. He is International Association for Radio, Telecommunications and Electromagnetics (iNARTE) Certifies Engineer. Certified Reliability Engineer (CRE) Mr. Salam is also a Six-Sigma Black Belt certification holder.

He is a member and a contributor to EMC IEEE Society, ASQ, IEC, ITU, NIST, NCSL, ASME, IEEE, Mr. Salam has performed numerous assessment National and International in China, Korea, Singapore, Japan, Taiwan, England, Israel, Peru, Germany, France and many others.

10.) Werner Schaefer

Owner and principal engineer of Schaefer Associates, a consulting firm specializing in domestic and international standardization of EMC test methods, EMC test procedure development, RF/uwave calibration activities, measurement uncertainty calculations, training activities and development and implementation of laboratory and inspection body quality systems. Mr. Schaefer was formerly employed with Cisco Systems where he was an internal consultant for EMC testing and RF/uwave calibration activities as well as the development, maintenance and implementation of a globally used laboratory quality system. Before 2000 he was employed by Hewlett-Packard and Agilent Technologies, where he was responsible for the definition and design of new EMC hardware and software products. He participated in the development of EMC standards and represented the company on national and international EMC standards committees.

He has extensive experience in EMC testing, currently serves on national and international EMI and quality system standards committees and was involved in the definition of an accreditation scheme of EMI laboratories in Germany. He developed checklists for emissions measurements for DATECH. Mr. Schaefer is also a recognized Bluetooth Assessor (BTA) and recognized assessor for CTIA and CCF in the mobile communications industry. He also has expertise in RF and microwave testing and calibration. He has worked in the area of software development and quality assurance.

Degrees: Technical University of Darmstadt, Darmstadt/Germany, 1982, RF and Microwave Major, MSEE received in 1982. Hochschule für Berufstätige, Rendsburg/Germany, Marketing Major, MBA received in 1990.

Extensive EMC Experience: conducted and radiated emissions measurement practice; OATS qualification and antenna calibration; measurement equipment calibration (e.g., LISNs, EMI receivers, etc.); semi-anechoic chamber verification; measurement of shielded effectiveness (cables, chambers); EMI troubleshooting; development of EMI measurement software; development and teaching of EMC and measurement uncertainty classes at universities; development of verification processes for EMI receivers with BAPT/RegTP in Germany

Memberships: a) CISPR/A (chairman of CISPR/A/WG1 and member of CISPR/A/WG2) ; b) CISPR/B (Member of CISPR/B/WG1) c) ANSI C63 (including membership of sub-committee 1, 3, 6 and 8); d) SAE AE4; e) ASQ; (Member of American Society for Quality) f) ICAC (Member of International Conformity Assessment Committee); g) member of ISO g) CASCO (Member of ISO committee on conformity assessment);

IEEE EMC Society (distinguished lecturer for the term 2000 and 2001); IEC 1906 Award winner (2007) NARTE: NARTE certified EMC engineer since 1996; RAB: RAB certified as Quality Management System Lead Auditor since 2003; GSA:G2S certified engineer

Over 50 papers on EMI measurement topics (given at EMC symposia worldwide); Co-authored a book on microwave technology and microwave measurement equipment in Germany

11.) Dan Sigouin

Mr. Sigouin is a subject matter expert in radiocommunication, telecommunications, electrical safety and product safety conformance with over 31 years of professional experience in Electromagnetic Compatibility (EMC) testing and standards development. This experience has been attained through his past work with the Canadian Federal Government's Department of Communications, which is equivalent to the U.S. Federal Communications Commission (FCC). He has extensive professional experience in the field of EMC, electrical safety, telecommunications and Radio Frequency Safety (SAR), including knowledge directly received from the FCC on the Code of Federal Regulations (CFR47).

He has extensive experience and knowledge analyzing and interpreting technical standards, policies and procedures affecting radiocommunication in the United States. Mr. Sigouin is familiar with the activities of the Accredited Standards Committee C63® (ASC 63r), the International Special Committee on Radio Interference (CISPR), the International Electrotechnical Commission (IEC), the International Telecommunications Union (ITU), including the FCC radio regulations, as well as the compliance programs in other jurisdictions, including the activities of the National Institute of Standards and Technology (NIST).

He has extensive assessor/auditor experience in the evaluation of various testing laboratories in EMC, electrical product safety, calibration, telecommunications, including various wireless certification schemes such as, Cellular Telecommunications & Internet Association (CTI / Over The Air Performance OTA), Bluetooth Compatibility and WiFi 802.11, using his knowledge of electromagnetic compatibility, metrology and radiocommunication. He has evaluated the competence and ability of laboratory staff to ensure compliance to U.S. or other various recognized International requirements and standards. Mr. Sigouin has the background and unique ability of interpreting and comparing domestic and foreign requirements to ensure U.S. laboratories comply for a successful accreditation. Mr. Sigouin has specific and unique technical expertise relating to domestic and International standards and test methods which are directly related to his assessor role in the conformity assessments to domestic and foreign requirements to ISO/IEC 17025 and ISO/IEC 17065, including various national and international standards as well as organization quality management system registration.

12.) Yukio Tanuma

Mr. Tanuma is the representative director of PCTEST Japan Co., Ltd. (PCTEST Japan) which is a subsidiary of PCTEST Engineering Laboratory Inc (PCTEST Lab) in Maryland, USA. PCTEST Lab is a test laboratory for EMC/Radio/SAR/HAC/Battery Safety/CDMA Conformance and a Telecom Certification Body (TCB). He supports the Japanese clients and Asian clients of PCTEST Lab. He has been performing assessments of laboratories since 1997. He is also working for the Japan Accreditation Board for Conformity Assessment (JAB) in Japan as a system assessor as well as a technical assessor.

Work History and Relevant Work Experience

From 2001 to 2008 he was the senior engineer of PCTEST Lab (Maryland, USA). He was working as a SAR, HAC and EMC test engineer.

From 1996 to 2001 he has worked for NMi Japan Co. Ltd. (Kanagawa, Japan) as an EMC Chief Engineer for CISPR 22, FCC Part 15, Part 18, VCCI, and immunity tests. His duties were as an EMC test engineer, EMI modification engineer, EMC test laboratory assessor (to EN45001 standard), and EMC engineer for in-site testing.

From 1995 to 1996 he operated his own business as an EMC consultant working as an EMC modification engineer and EMC engineer for in-situ testing. In this capacity he helped Ohtama to build the test facilities for CISPR 11, IEC 61000-4-x (x=2,3,4,5,6,8, and 11), IEC 61000-3-2 and IEC 61000-3-3.

From 1993 to 1995 he was the EMC Manager of PCTEST lab (Maryland, USA) working as an EMI test engineer for FCC Part 15, Part 18, CISPR 22, and VCCI tests. He was also an EMI modification engineer for personal computers, notebook computers, and peripherals.

From 1984 to 1993 he was a Group Leader of the EMC department of Akzo Kashima Ltd. (Ibaraki, Japan) where he served as an EMI test engineer for FCC Part 15, Part 18, CISPR 22, VCCI, VDE0871, and 0875 tests. He also worked as a software engineer for EMI measurement programs as well as an EMI modification engineer for personal computers, peripherals, copy machines, and facsimile machines.

Education, Skills, and Proficiencies

Mr. Tanuma is a NARTE certified EMC engineer (#EMC-002237-NE). He is proficient in both English and Japanese. In addition, he is an authorized JAB assessor by AEMCLRP for automotive EMC standards.

13.) David Waitt

David is a 1986 Electrical Engineering graduate of Wentworth Institute of Technology in Boston Massachusetts. After graduation he moved from New England to the San Francisco Bay Area (Silicon Valley) where he worked for California Microwave. While at California Microwave he designed and tested microwave RF/microwave equipment for use in military satellite Earth stations.

In 1990 David joined Loral – Western Development Labs where he continued his design / test work associated with military satellite Earth stations.

When peace broke out in the early 1990s he moved to the commercial industry. He entered the regulatory field upon joining Metricom when they were fielding the Ricochet network in 1994. The Ricochet network was a wide area, 900MHz FHSS network that allowed the general public wireless access to the internet. David was responsible for all of the FCC and Industrie Canada regulatory testing and certification activities for the Ricochet FHSS modems and “mesh network” infrastructure radios that made up the Ricochet network.

In 2000, David joined Handspring Inc. where he was responsible for worldwide regulatory certifications of Handspring products - starting with the Treo line of cellular phones, the Treo 180. Here he gained regulatory knowledge of CDMA and GSM requirements throughout Europe, Asia, Middle East, and South America. Handspring was later purchased by Palm and became PalmOne and later Palm (again).

David's responsibilities included supervising the testing and ensuring regulatory compliance of the Treo line of products (which included GSM, CDMA, WiFi and Bluetooth (RF and protocol testing) and SAR and HAC as well as LiOn battery testing and safety testing. David was responsible for obtaining regulatory approval from countries around the world, including the EU. He was responsible for assembling the TCF and working with Notified bodies to obtain Expert Opinions in order to ensure compliance with the applicable directives (EMC, R&TTE, WEEE, ROHS)

David left Palm to work as a full time consultant in 2005.

Working as a part time consultant from 2002 to 2006 (and full time since 2005), David has helped multiple clients with their regulatory testing issues and has developed knowledge of the certification processes in many countries around the world. His regulatory background extends from actually performing the tests, creating the reports, (when possible) putting together the application packages / technical constructions files and submitting the applications to different agencies / NBs around the world.

Currently, David is busy as a full time consultant helping clients with all aspects of regulatory testing and compliance of their products and assisting various clients with the development of their quality systems.

Among other domestic and international standards, his background includes:

FCC Parts 15, 18, 22, 24, 27, 90, 95, 101
FCC Part 15 B
EN55022 (CISPR 22) Emissions Testing
EN55024 (CISPR 24) Immunity Testing
EN 61000 (Immunity suite of tests)
IC RSS standards
ETSI EN standards
RF Exposure (SAR)
HAC Testing
MIL EMC Testing
Bluetooth BQB Certification
WiFi Certification Testing
CTIA Certification
Safety (60950, 61010, 60601, 60335)
LiOn battery testing (1725 / 1625)

14.) David Wilson

Mr Wilson has been involved in the EMC field since the initial publication of the EMC Directive in 1989. He was later instrumental in the appointment of BABT, the UK telecommunications authority, as a Competent Body under that Directive. While with BABT he also performed almost 40 audits worldwide, as well as being involved in the supervision of approved UK test laboratories and ISO/IEC Guide 65 (later ISO/IEC 17065) compliance. As Consultant and Quality manager for InterConnect Communications he project managed many global compliance programs as well as introducing a quality system which achieved first-time ISO 9000 compliance. Appointed as EMC Laboratory Manager for BABT/TUV Product Service in Santa Clara, CA he introduced an ISO/IEC Guide 25 (forerunner of ISO/IEC 17025) quality system which achieved first-time NVLAP accreditation. As Compliance and Quality Manager for Alidian Networks, he was again involved in first-time ISO 9000 compliance as well as being solely responsible for global certification of all Alidian's products, including FDA, FCC, UL, CE and NEBS. Mr Wilson was employed by Cisco Systems for ten years, most recently as Laboratory Quality Manager with responsibility for the accreditation (including ISO/IEC 17025 with A2LA) and registration of Cisco's 23 test laboratories (Product Safety, EMC, Telecom, Radio, OTA, Environmental, Energy Efficiency). As EMC Technical Leader he was also responsible for development of in-house test solutions, as well having responsibility for compliance of Cisco's HealthCare and SmartGrid products. Mr Wilson has worked on several standards committees, including BSI, ERO, CISPR and IEEE. Mr Wilson is currently employed by NETGEAR, Inc. with responsibility for global compliance of NETGEAR's wireless and networking products, as well as second-party auditing and project management of NETGEAR's approved test laboratories worldwide.

15.) David Zimmerman

David Zimmerman is currently President of Spectrum EMC Consulting, LLC.

Mr. Zimmerman writes EMC test procedures and reports, provides training and consultation for EMC laboratory management, EMC measurements, mitigation, and testing oversight. He also performs internal audits for EMC laboratories accredited to ISO/IEC 17025. He worked in a NVLAP accredited facility from 1991 until 2011, and has participated in several laboratory assessments since 2001. He is currently a member of A2LA's Accreditation Council. He has been an A2LA Lead Assessor since November of 2013.

Until February 3, 2011, Mr. Zimmerman was a Sr. Product Specialist, and prior to that held the position of Chief Technical Advisor (2004-2008) with TÜV SÜD America, Inc., in New Brighton, MN. As the Chief Technical Advisor, Mr. Zimmerman provided laboratory consultation, improvement of processes, and test training at various corporate locations. Before leaving briefly for Lockheed Martin in September of 2003, Mr. Zimmerman was the Chief EMC Engineer, at TÜV SÜD America, Inc. from 2001 to 2003. This position included the technical operation of the EMC test facility, including purchasing of test equipment, keeping current calibration records of test equipment, keeping current on all relevant EN, ISO, RTCA, Military, and Automotive Standards, and supervision of the technical staff. It also involved working with customers regarding testing methodology, proper equipment configuration, and interpretation of EN, ISO, RTCA Military, and Automotive Standards. The position also involved the mitigation of EMC problems and giving presentations on EMC related topics. During Mr. Zimmerman's 5 months at Lockheed Martin in 2003-2004, he performed similar functions in operating their EMC laboratory.

Mr. Zimmerman is NARTE Certified EMC Engineer, EMC-002420-NE, and a member since 2002. He is currently a member of the dB Society, and Senior Member of the Institute of Electrical and Electronics Engineers. He has been a member of the IEEE EMC Society since 1997.

Mr. Zimmerman has been a member of RTCA since 2004 where he worked on committees SC-202, SC-203, and SC-135, which is responsible for the document DO-160. Spectrum EMC Consulting, LLC is currently a member of the RTCA.

Mr. Zimmerman has been a member of Accredited Standards Committee C63® Electromagnetic Compatibility Main Committee: Representing TUV America, Inc. as their Primary representative from 2004 to 2011 and as an individual member since 2011. He has served on Subcommittees: SC1, SC5, SC6-Secretary, SC8-Secretary, and working groups: On-site testing (C63.24), C63.10/C63.26 (Transmitter testing).

Mr. Zimmerman received an associate degree from St. Cloud Technical & Community College in Instrumentation Technology. He is currently self-employed at the company he founded in March of 2011, Spectrum EMC Consulting, LLC. He has been involved in an EMC related field since 1984.

A2LA currently offers a branch discount on annual fees for all Conformity Assessment Bodies (CABs) that are part of a branch system. The branch breakdown is as follows:

- Main CAB, first Certificate/Scope – full annual fee applies;
- CAB Certificates/Scopes two through five will each receive a discount per Certificate/Scope;
- CAB Certificates/Scopes six and up will each receive an additional discount per Certificate/Scope.

The conditions for applying as a branch of another CAB are as follows:

- All application, renewal of accreditation and annual review processes must be coordinated through one central person, the Corporate Representative;
- All fee payments and invoices must be coordinated through the Corporate Representative;
- All organizations within a single branch system must operate under the same management system;
- All organizations within a single branch system are given related certificate numbers (e.g., 301.01, 301.02, 301.03, etc.);
- All organizations within a single branch system must be visited, assessed and accredited regardless if they are performing the exact same testing as the main organization.

This central coordination and arrangement within our database allows for greater efficiency in handling various processes, therefore a discount on fees is offered to all branch organizations.

Branch systems have the option of choosing to have all of the organizations within the branch system have the same anniversary date as the main organization or base the branch organizations' anniversary date off of their initial on-site assessment. Please understand, however, that for large branch systems, this central coordination can become cumbersome if all of the branches have the same anniversary dates and all branch organizations within the system are often unable to complete the various processes (renewals and annual reviews) by the same anniversary date or deadline.

For budgeting purposes, Corporate Representatives responsible for corporate structures having an excess of 30 CABs (be they branch, mobile, etc.) can request a discounted flat annual fee per CAB. This will allow an even cost structure across all CABs rather than a tiered structure which penalizes the CABs that have been within the A2LA structure the longest.

To determine the assessment costs associated with your organization, please go to www.A2LA.org and click on the 'Get an Estimate' or contact Jason Poore at jpoore@A2LA.org or 301 644 3205.

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Document Revision History

Date	Description
7/15/2016	• Document refresh; update contact info