

# **APEC SRB Overview**

## **Resourcing and Supporting Standards and Conformance in the APEC Economies**

### **EXECUTIVE SUMMARY**

At the Pacific Area Standards Congress (PASC) XXIX held in Cape Town in May 2006, PASC agreed to provide an explanatory paper to the SCSC by the end of June, regarding resourcing and supporting standards and conformance in the Asia Pacific Economic Cooperation (APEC) economies, and to request input from the other four Specialist Regional Bodies (SRBs) (APLAC, APLMF, APMP, PAC). This paper will build on the paper provided by David Lazenby to the APEC Business Advisory Council (ABAC) and provide an Asia-Pacific counterpoint; it aims to raise awareness of the breadth and depth of standards and conformance services already in place in the APEC region, and to open the door to better utilization of these services by business and government. As an alternative to Mr. Lazenby's suggestion that APEC member economies should strive to emulate the EU approach of mandatory regional standards, the paper argues that the APEC-area SRBs provide the ideal balance between the goal of achieving a unified standards-system and the need to respect the diversity of APEC economies. The paper closes by pointing out that the SRBs have evolved into effective institutions that enable the goal of trade facilitation.

### **OVERVIEW:**

#### **The paper provides:**

- an assessment of the Lazenby paper recommendations
- a summary of the European Standards Situation
- a summary of the APEC Standards Situation
- an overview of the challenges to greater use of International Standards in the APEC region
- an overview of PASC
- a summary of legal metrology/metrology in the APEC region (APLMF and APMP)
- a summary of accreditation in the APEC region (PAC-IAF and APLAC-ILAC)
- an analysis of the APEC region's relationship to accreditation in Europe
- conclusions / future considerations

A list of acronyms used in this paper is provided in Appendix G.

### **Assessment of the Lazenby paper recommendations**

The Lazenby paper makes 28 recommendations for the Asia Pacific region - grouped into the following six major areas:

- Clarify Objectives
- Identify Players
- Raise Awareness
- Strengthen Infrastructures
- Engage Governments
- Engage Industry

The Lazenby paper fails to mention that most of its recommendations are already being carried out by APEC economies, their National Standards Bodies (NSBs) and the 5 SRBs operating in the APEC region; these recommendations are in their charters, actions plans and objectives.

PASC does not support a policy obligating APEC economies to adopt regional standards (whether international or regionally created). It is inappropriate to consider implementation of a top-down “union” model onto a fundamentally different and bottom-up economic “cooperation”. The SRBs strongly reject the need for an Asia Pacific government mandatory “driver corresponding to the European obligations”.

PASC rejects the recommendation to “link the development of new laws into support for particular adoption programmes (viz. EU standardization in support of directives).” SRBs believe standards should be developed to be market and regulator-relevant. Industry and governments should be encouraged to participate in (international) standards development and economies and industry should be autonomous in their use, reference and/or adoption of (international) standards to meet public and private sector needs respectively.

This paper also seeks to state the roles the Specialist Regional Bodies play in support of standards, conformity assessment and metrology in the APEC region. The SRBs assert that the best application for most of the Lazenby paper recommendations will be through continued SRB support of APEC and the APEC-SCSC.

The rationale and background for these positions is provided in the paper below and summarized in the conclusions.

## **European Standards Situation**

The European Union (EU) requires, as a condition of membership, that economies set aside national standards and adopt European standards issued by the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC), commonly known as Euronorms (ENs).

In the mid 1980s, the EU instructed the private-sector European standards organizations (CEN and CENELEC) to create European standards and to base them as much as possible on those of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). It is commonly understood that the political intent was to drive European technology into International Standards in the expectation that this would facilitate entry into markets around the globe that rely on International Standards issued by ISO and IEC. The EU provided exceptional funding at the outset to transform the European standards bodies (CEN and CENELEC) into high-performing machines. The EU continues to fund the work of CEN and CENELEC in targeted areas, up to roughly 45 % (10 million USD per annum) of their budgets, with the balance coming from member body annual dues.

CEN and CENELEC have the authority to decide which standards they will develop and issue. Having decided to develop a standard, and where they see the benefits of an International Standard, they will first request ISO or IEC to develop the standard (the 2001 Vienna Agreement permits CEN work to be taken up in ISO; CENELEC, through the Dresden Agreement, gives IEC the right of first refusal). Non-European members are usually eager to assist in developing ISO and IEC standards that will become European standards; thus, Europe can have great influence on the work programs of ISO and IEC technical committees. Where the resultant ISO or IEC standard will, in effect, become an obligatory requirement in Europe if cited under any of the New Approach Directives, the Europeans participate effectively at ISO and IEC to ensure the international requirements accommodate Europe’s needs.

In the early 1990's, there was an immediate need for a large number of European standards, and many were created and issued in advance of the availability of ISO and IEC standards; CEN and CENELEC, being smaller and more focused, could produce more quickly. Now that the initial rush is over, there is a greater tendency to create a standard at the international level and to simply adopt it as a Euronorm (EN). Many of the technical committees of CEN and CENELEC now operate mainly as regional mirror committees and provide a forum for Europeans to resolve any differences at home and prepare themselves to effectively obtain what they desire at the international level.

The increase in the number of nations joining the EU results in greater European influence at ISO and IEC.

There are lessons to be learned from the business-political partnership at the EU that results in an extremely effective standards machine that ensures European technology is embedded in international basic trade instruments – standards.

### **APEC Area Standards Situation**

The Asia Pacific Economic Cooperation (APEC) initiative was established in 1989 to provide a forum for the discussion of economic and trade issues within the Pacific Rim countries. The APEC region is responsible for over 50% of World GDP and is home to around one-third of the World's population. Within the 21 APEC economies are some of the world's largest economies, such as China, USA and Japan, as well as some small developing economies like Papua New Guinea, Peru and Vietnam. As well, there are a number of middle ranking economies, such as Indonesia, Thailand, Australia and New Zealand. Similarly, the size and sophistication of the national standards bodies are also varied.<sup>1</sup> The mix of National Standards Bodies (NSBs), metrology institutions and accreditation organizations is also different in each country.

With such a diverse mix of economies that are joined more by geographic location than common cultural, ethnic or historical links, APEC can only operate by adopting a flexible approach that all of its economies can embrace.

APEC, as a cooperative entity, does not impose conditions on its members. In the area of standards, it encourages greater alignment of APEC member economies' standards with international standards, although the largest economies continue to have non-equivalent national standards for their massive markets. APEC's intent is to develop intra-regional trade and also to facilitate trade with other regions of the world.

The reality is that APEC members include very large economies that have (and develop) standards to sustain their own economies. Some of these very large economies develop standards in an open fashion to prevent them from being technical barriers to trade. Smaller economies have the increasing tendency to adopt international standards (including those of ISO and IEC) as well as those of the large economies that meet the test of globally relevant international standards. The smaller economies make strategic decisions to assist exports of their local industry or to decide the origin of their imports.

There are several sub-regional trade agreements that influence national standards. Examples include North America (NAFTA), Australia-New Zealand (Closer Economic Relations), Association of Southeast Asian Nations (ASEAN) Free Trade Agreement, the Pacific Islands Forum, and the Northeast Asia Standards Cooperation.

Although NAFTA is not prescriptive regarding standards, there are some interesting tri-national arrangements whereby a voluntary tri-national body prepares a draft document which is then

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<sup>1</sup> For the sake of a measure, we have used their involvement in international standards organizations as a measure of the capacity of the various national standards bodies in the region (see Appendix A).

issued identically by each of the three countries through national standards development organizations. Of particular note are standards for electrical products and steel structural components. There is also the concept of "parallel" standards whereby a product can be made to the requirements of a national legacy standard, a tri-national standard, or a nationally adopted ISO or IEC standard. The standards are structured to ensure the resultant product safely fits into the national system. This "parallel" concept permits an effective transition from parochial standards to regional to international standards.

## **Challenges to the greater adoption of International Standards in the APEC region**

### **Global Relevance**

In recent years, it has been documented that many International Standards published by ISO and IEC are being used only in a limited number of countries. As a result, the need for International Standards to be globally relevant has been recognized if they are to be universally implemented around the world. ISO and IEC have recognized the need to facilitate interoperability with differing imbedded infrastructures, as well as accommodate different climatic and geographic situations. In addition, ISO has recognized that an International Standard's suitability for implementation in an Economy is contingent on how well the requirements in the International Standard match the economic and technological realities in the Economy to meet the needs of the suppliers, users, regulators and other stakeholders who will use the International Standard.

To date, in areas such as electrical fuses, safety of pressure equipment and agricultural equipment, qualifications of welding personnel and care labeling of clothing, the ISO and IEC global relevance policies have been applied where the technical "bones of contention" have largely been between the most active participants in international standardization, Europe and North America. By contrast, specific global relevance cases to reflect the economic and social needs of developing nations have not yet been raised for policy-level action. ISO and IEC have tended to take the view that the best avenue is by increasing membership and participation by developing nations in international standardization through the activities of the ISO Committee on Developing Country Matters (ISO/DEVCO) and the IEC Associate Member program. The theory is that if a national standards body has the right to take part (even if only to submit comments), it will be able to shape the International Standards to meet its economic and social needs. Unfortunately, while membership in ISO and IEC by developing countries continues to steadily grow, their actual participation in these organizations at the technical level where International Standards are created remains below 3%<sup>2</sup>.

### **Standards Body Capacity**

The Lazenby Report postulated that a lack of capacity on the part of the national standards bodies (NSBs) of the region is a significant limiting factor inhibiting greater adoption of International Standards by developing APEC economies. This was based on an examination of reported data on staff numbers and budgets for NSBs within APEC and comparison with data reported by European standards bodies. However, Lazenby failed to note that, while a lack of capacity may have affected economies' abilities to adopt international standards, it did not affect the total number of national standards within economies. PASC believes that such an investigation is necessary before drawing the conclusion that NSB capacity is a limiting factor.

As already indicated, the adoption of International Standards and participation in international standardization are linked. Because of the sheer volume of international standardization activities, no economy in the APEC region has the capacity to form a view on all of the developments in international standardization. Both developed and developing APEC economies need to ensure

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<sup>2</sup> ISO Committee on Developing Country Matters (DEVCO) - 37th meeting, Buenos Aires, Argentina, 15 and 16 September 2003 - Working documents

that available resources are channeled into the most relevant activities for their economies and the NSBs have a role to play in facilitating this process. However, the actual views being put forward need to be those of stakeholders, supported by NSB staff, if the economy is to have an effective voice.

There is also the issue of how to handle a catalogue of older national standards that are in need of revision, where this revision might potentially involve adopting the equivalent International Standard. Undertaking these reviews involves both NSB staff and stakeholder resources and managing this workload is not an issue that is unique to APEC economies.

While virtually all national standards bodies in the world could be more effective with increased resources, the question is whether a lack of NSB capacity is truly the dominant factor limiting the adoption of International Standards in APEC? With the benefit of greater local knowledge, PASC would like to suggest that *there are more fundamental issues than NSB capacity within developing APEC economies that limit their ability to shape, and then adopt, International Standards.*

### **Technological and industrial development**

When the industries within an economy are still developing, perhaps using technologies that have been superseded in places like Western Europe, it is sometimes not possible to implement the relevant International Standards because they are written around the latest technologies. It is also difficult for an economy in this position to argue in committees developing International Standards for recognition of less sophisticated technologies, when the economy itself acknowledges that it needs to progress towards world's best practice, not cling to the current situation.

This commonly leads to the economy adopting a view that, for the present, the standards for use in the national market have to be developed around the systems, affordability, and technologies predominating locally. However, those same economies want to show their support for enterprises that have the capacity to operate at a higher level, utilizing the technologically advanced standards that underpin the Global Market. In other words, the standards for products destined for the local market and those for products manufactured for export are often different. Put simply, standards need to match the needs of the local market at a particular stage of evolution.

To deal with this transitional situation, some sub-regional groupings, like the ASEAN Consultative Committee on Standards and Quality (ACCSQ) and the Pan American Standards Commission (COPANT), have developed common standards for use by their members. These standards take account of the specific economic and social situation in the sub-regions and serve a useful purpose along the road to economic development. However, it would be difficult to see such sub-regional standardization activities being capable of embracing all developing country needs across a region as diverse as APEC.

### **Structural and Cultural Differences**

The Lazenby Report identifies the fact that European standardization is dominated by private sector input while standardization in many APEC economies is largely the province of government. Before APEC can enhance private sector involvement, it is important to understand why the two regions are so different.

Standardization in Europe can trace its origins back more than 100 years and emerged almost in parallel with industrial innovations like the railway system, mass production and the introduction of electrical power. Importantly, industry created the early standards and established a culture of industrial standards being the province of the private sector.

In contrast, there is a history of standards in Asia dating back millennia, particularly in the case of China, but these were standards promulgated by government officials not by industrialists. The

culture that has emerged is predominately one of standards being a responsibility of government, not of private citizens. But unlike in Europe, where industrial production and government were always seen as distinctly different elements in society, here they were seen as interlinked facets of national development.

Perhaps even more importantly, the present system of ISO/IEC international standardization originated in the then developed world and still has a very heavy European flavour. ISO and IEC are not treaty-organizations, but rather private sector bodies with members from either the private sector or the public sector, depending on the country involved. Central governments in APEC economies have recognized the importance of engaging with the international standards system to gain entry to the international trading system.

The APEC Sub-Committee on Standards and Conformance (SCSC) has identified the need for strong industry involvement in standardization; but has recognized that this is, to a large extent, dependent on structural and cultural changes in individual economies. As a starting point, the promotion of industry associations, that are currently either weak or are yet to emerge in some developing APEC economies, needs to be fostered so that industry can speak in a collective manner. This will inevitably be an evolutionary process, but is an area where ABAC might take a lead by working with other industry leaders.

### **Legal Conditions**

Throughout APEC, economies at different levels of development experience varying levels of market failure. Where market failure is likely, government is often obliged to implement mandatory standards-based technical regulations and conformity assessment procedures to help prevent unsafe or unsuitable products from reaching the market. It is these legally enforceable measures that are frequently seen as creating the greatest potential for barriers to trade. This is an issue in every region of the world and there are many potential solutions.

Within Europe, a common set of technical regulations were established, in the form of the European Directives, to overcome national differences; this imposes a common technical regulatory regime across the whole of the European Union.

It is clear that without changing APEC into a body bound by a formal treaty, such a centrally-dictated approach to technical regulation is not feasible in APEC. Instead, APEC continues to work collaboratively with regulators to find common approaches and seek mutual recognition where appropriate. The APEC SCSC might consider providing some leadership to economies to help shape their technical legislation in a way that will avoid creating unnecessary barriers to trade – through effective use of the services of the SRBs.

### **PASC**

(See Appendix B)

APEC has established a Subcommittee on Standards and Conformance (APEC SCSC) under its Committee on Trade and Investment (CTI); the SCSC takes advice from five specialist regional bodies (SRBs). The Pacific Area Standards Congress (PASC, [www.pascnet.org](http://www.pascnet.org)), established in 1973, is the specialist regional body for National Standards Bodies. Its most notable feature is that it has no member dues and it relies solely on the services provided by its members. The requirement for continuing membership is to attend annual meetings.

PASC's major role is to facilitate member NSBs to share experiences and learn best practices, as well as to compare notes on issues related to ISO and IEC governance. Its members also provide trainers for building standards capacity in economies in transition, through both individual member initiatives, and through APEC Trade and Investment Liberalization and Facilitation (TILF) funding.

PASC has recently initiated means to create a dialogue amongst experts from the APEC countries involved in specific activities at the technical level in ISO and IEC. These include a forum for consumers involved in ISO's Consumer Policy Committee. PASC also has a pilot project to arrange pre-meetings of experts in the region attending ISO and IEC technical meetings in the areas of design for the environment, natural disasters, and accessibility. PASC continues to explore means to create dialogues amongst the experts within the region for each technical activity of ISO and IEC.

PASC's charter ([www.pascnet.org/public/charter.asp](http://www.pascnet.org/public/charter.asp)) contains several objectives, including promotion of the provisions of the World Trade Organization - Technical Barriers to Trade (WTO TBT) Agreement – essentially the national adoption of international standards. PASC has chosen not to create regional standards, as it feels this is inappropriate for the APEC region. As a consequence, there is no regional mirror committee structure; communication amongst regional technical experts occurs through personal relationships developed among the technical experts who attend the meetings, and/or by chance.

## **Metrology in the APEC Region**

Legal Metrology covers measuring apparatus used for measurements for legal purposes. It originated from the need to ensure fair trade. Its main objectives are to ensure the correctness of measurement results used in official and commercial transactions and in workplace health and safety. It is distinguished from scientific metrology, which deals with the organization and development of measurement standards and with the traceability of measurements to the relevant International System (SI) unit, and distinguished from industrial metrology, which ensures the adequate functioning of measurement instruments used in industry and production and testing processes.

There is an international infrastructure of metrological organizations. At the head of this infrastructure is the International Organization of Legal Metrology (OIML, [www.oiml.org](http://www.oiml.org)). It was established in 1955 in order to promote the international harmonization of legal metrology procedures. There is also an international scientific institute of metrology, the "Bureau International des Poids et Mesures" (BIPM, [www.bipm.fr](http://www.bipm.fr)), set up by the Metre Convention with a mandate to provide the basis for a single, coherent system of measurements throughout the world, traceable to the International System of Units (SI).

In the APEC region, there are two SRBs that deal with metrology, APLMF and APMP.

### **APLMF**

(See Appendix F)

The Asia Pacific Legal Metrology Forum (APLMF, [www.aplmf.org](http://www.aplmf.org)), founded in 1994, is a grouping of legal metrology authorities in APEC economies and other economies on the Pacific Rim. It works closely with OIML in the development of legal metrology. By helping to harmonize and remove technical or administrative barriers to trade in the field of legal metrology, APLMF facilitates free and open trade in the APEC region. The main aim of APLMF activities is to support developing and/or small economies in the region by providing information services and organizing seminars and technical training courses to encourage international participation in standardization activities. This allows developing economies to acquire the ability to harmonize their domestic metrology standards with existing international metrology standards, and, if necessary, to propose revisions to the international ISO/IEC/OIML documents.

### **APMP**

(See Appendix E)

The Asia Pacific Metrology Program (APMP, [www.apmpweb.org](http://www.apmpweb.org)) formed in 1977, is the oldest continually operating regional metrological grouping in the world. It is primarily responsible for developing international recognition of the measurement capabilities of the region's national and territorial measurement laboratories.

The APMP works in close collaboration with BIPM, as well as with other regional bodies. Two of its main objectives are to provide a forum for the exchange of information on measurement standards and capabilities, and to provide traceability of measurement through the calibration and comparison of national and territorial metrology standards. It also serves to enhance international credibility for the region's measurement traceability and competence, and provides training of personnel to upgrade measurement capabilities within the region.

Together, these two SRBs provide the APEC region with long-standing and effective institutions in the field of metrology. By serving to harmonize the region's metrological standards, APLMF and APMP provide international confidence in the region's metrological capabilities and underpin regional and global trade.

## **Accreditation in the APEC Region**

Accreditation co-operation at the regional level in the Asia-Pacific Region has replaced the situation of incompatible and different national schemes prevalent in the 1970s. The accreditation infrastructure now in place permits reliance on results generated in a foreign jurisdiction. The system is expected to grow as even greater attention is paid to accreditations issued by national partners. Accreditation supports open markets and, when utilized, can ensure imports are safe and fit for purpose (conform to standards). In the APEC region, accreditation cooperation takes place through the efforts of two of the SRBs, PAC and APLAC.

### **PAC**

(See Appendix C)

The Pacific Accreditation Cooperation (PAC, [www.apec-pac.org](http://www.apec-pac.org)) is an association of accreditation bodies and other interested parties. Formed in 1994, and signing a Memorandum of Understanding (MoU) in 1995, PAC's ultimate goal is the creation of a global system that grants international recognition of certification of management systems, products, services, personnel and other programs of conformity assessment.

As a regional accreditation group of the IAF with the objective of facilitating trade and commerce among economies in the Asia Pacific region, PAC is also a signatory of the IAF Multilateral Recognition Arrangement (MLA) for QMS (Quality Management Systems), EMS (Environmental Management Systems), and Product. Members promote acceptance of accreditation issued by other PAC and IAF Multilateral Recognition Arrangement (MLA) members.

### IAF:

The International Accreditation Forum (IAF, [www.iaf.nu](http://www.iaf.nu)) is an international association of conformity assessment accreditation bodies and other bodies interested in conformity assessment, in the fields of management systems, products, services, personnel, and other similar programs. Formed in 1993, its primary objective is to develop a single world-wide program of conformity assessment ("one standard, one test, one certificate accepted everywhere"). This reduces risk for businesses and customers by assuring them that they can rely on accredited certificates. The IAF incorporated in 1998.

The IAF supports world trade by removing technical barriers posed by national variations for certification of management systems, products, and like processes. This is achieved through the establishment of MLAs permitting world-wide recognition of certificates of conformity.

### **APLAC**

(See Appendix D)



The Asia Pacific Laboratory Accreditation Cooperation (APLAC, [www.aplac.org](http://www.aplac.org)) groups accreditation bodies in the Asia Pacific region responsible for accrediting calibration, testing and inspection facilities. It was formed in 1992, and the APLAC memorandum of understanding was signed in 1995 by representatives of accreditation bodies from several economies. This established APLAC as a regional organization. The inaugural signing of the APLAC Mutual Recognition Arrangement (MRA) by 7 accreditation bodies in the region was in November 1997.

Its main objectives are to foster the development of competent laboratories and inspection bodies in member economies, to harmonize accreditation practices in the region and with other regions, and to facilitate the mutual recognition of accredited test, measurement and inspection results through the APLAC MRA.

#### ILAC:

The International Laboratory Accreditation Cooperation (ILAC, [www.ilac.org](http://www.ilac.org)) was formed in 1977 in response to the incompatibility between economies' test and calibration results. ILAC's original goal was to facilitate trade through the creation of a uniform international system that permitted the acceptance of others' results.

ILAC's initial work to create common requirements for the accreditation of laboratories and certifiers, via the precursor to ISO/IEC Guide 25, has now been taken on by the ISO's Conformity Assessment Committee (ISO/CASCO). ISO/CASCO documents now universally form the basis for the work of PAC and APLAC members and other international parties.

ILAC became a formal cooperation in 1996 when 44 countries signed a Memorandum of Understanding which was the precursor to the multilateral recognition arrangement amongst ILAC members. This arrangement promotes the acceptance of test and calibration data for exported goods. This facilitates the ultimate goal to develop a global network of accredited testing and calibration laboratories whose competence is recognized by signatories to the ILAC Arrangement. ILAC's evolution towards a common system has encouraged collaboration amongst accreditors, certifiers, and test labs, and allowed governments to rely on a common testing and product certification language, and thereby more easily negotiate free-trade agreements.

#### **Summary for SRB section:**

The foregoing illustrates the breadth of the operation of the APEC- area Specialist Regional Bodies. The different SRBs allow regional collaboration amongst National Standards Bodies, metrological organizations and conformity assessment accreditation bodies. This collaboration provides a forum for exchanging information, and facilitates trade through the elimination of standardization-based trade barriers. After a tremendous 20 year evolution, the APEC-area SRBs are now in a position to fulfill the vision of one standard and one test accepted everywhere.

#### **APEC Region's Relationship to Accreditation in Europe**

In Europe, certain product groups are required to have a marking to indicate conformance to European Directives (CE marking) in order to gain access to the European market- a mandatory marking that indicates conformity with essential health and safety requirements set out in EU directives. Products traded within the borders of a European country are not subject to this requirement. The CE marking procedure was set up mainly to harmonize all varying national regulations for consumer and industrial products for European member states to encourage the single market and to supply public bodies with a uniform procedure that can be checked. It is important to note that the CE marking has no significance in the rest of the world, as it is not legally enforceable outside of Europe.

For European small and medium sized enterprises, the most efficient method to justify CE marking is a test certificate (certification in some cases) from a Notified Body. A notified body is a

body that has been designated to carry out conformity assessment according to a directive from a member state. The notified body, in turn, may also be a member of IAF or ILAC and is expected to accept certificates issued by bodies that are members of PAC and APLAC. However, to sell in Europe requires a representative resident in Europe legally liable for fraudulent use of CE marking.

In contrast, in the APEC region, PAC and APLAC members permit the recognition of the credibility of regional goods through their respective multilateral mutual recognition arrangements. As well, APEC provides the requisite intraregional safety assurances for similar schemes for electrical goods operated by the IEC. The APEC region's more flexible approach is representative of the fact that, unlike the EU, APEC is a political cooperation, not a political union. APEC accreditation bodies help to facilitate trade and ensure safety requirements, while still respecting the diversity of Asia-Pacific economies.

## **Conclusions- Future Considerations**

The different APEC Specialist Regional Bodies provide the APEC region with an effective standards and conformance system. Businesses wishing to invest in the region will find a well-developed system of standards-development, metrology, conformity assessment and accreditation. The close coordination of the SRBs has enhanced a growing mutual confidence in member economies' accreditation results; this has translated into a series of multilateral Mutual Recognition Arrangements (MRAs) and Multilateral Recognition Arrangements (MLAs). These arrangements facilitate trade in the APEC region.

The APEC standards and conformance system continues to evolve, and there are some current opportunities for further growth. One such opportunity is the potential to structure standards-participation (establish regional mirror committees) to effectively include APEC technology in international standards. Further, the APEC standards and conformance system could become more effective by making full use of accredited services; this would both protect APEC consumers and users, as well as provide credibility to export products. In these ways, APEC could emulate the success of the EU in gaining better access to export markets.

The great strength of the APEC standards and conformance system is the balance it strikes between uniformity and flexibility. APEC economies share the long-standing objective of a unified standards system, but APEC, and the APEC SRBs, also recognize the diversity of regional economies in terms of size, technological infrastructure, national imperatives, and political systems.

The Pacific region is unlike Europe, in that it does not have regional standards, nor should it, as this would introduce another set of standards that would tend to stifle world trade. It is also unlike Europe in that there is no equivalent to the European Commission and therefore no need for regional standards to support regional legislation. APEC and the SRBs support the use of international standards. This is logical and in line with WTO TBT principles with which many APEC economies already comply as members of the WTO.

Opportunities exist for PASC and APEC to examine existing and new mechanisms to further harmonization of national and international standards and conformity assessment measures.

It is for all of the above reasons that the Lazenby report is flawed. In short, unlike the EU, APEC is not a political union; it is a cooperation of economies who share the goal of open regional trade, while still respecting the differences between them. The APEC SRBs are the preferred institutions for the enhancement of technical trade-facilitation in the region. Now more than ever, the SRBs are working collectively in support of APEC and the SCSC. The SRBs look forward to increasing this cooperation and support.

## APPENDIX A

### Level of Participation in ISO and IEC – APEC Member Economies

See Note 1 on page 3

APEC Member Economy	ISO		No of Secretariats	IEC	
	No of P Memberships	No of O Memberships		No of P Memberships	No of O Memberships
United States	586	62	141	157	0
Japan	579	77	40	171	0
Russia Federation	508	86	15	155	4
Korea (Republic of)	501	160	5	122	49
China	472	219	7	166	2
Australia	314	211	17	99	58
Canada	308	62	21	97	39
New Zealand	90	64	0	27	89
Malaysia	78	120	4	5	75
Thailand	63	162	0	28	40
Philippines	50	64	0	0	0
Indonesia	46	154	0	16	51
Mexico	41	268	0	43	52
Singapore	30	124	0	4	129
Chinese Taipei	Not a Member			Not a Member	
Chile	17	83	0	Not a Member	
Vietnam	12	59	0	0	0
Brunei Darussalam	0	7	0	Not a Member	
Hong Kong-China	0	112	0	Not a Member	
Papua New Guinea	0	2	0	Not a Member	
Peru	0	3	0	Not a Member	

P = Participates actively on committees and subcommittees; O = Observes by correspondence



## APPENDIX B

### What is PASC?

- The Pacific Area Standards Congress (PASC) is a voluntary, independent organization of 22 national standards bodies representing countries and territories of the Pacific Rim (the Americas/North Pacific/East, Southeast & South Asia/Southwest Pacific)
- Established in 1973, PASC is one of five Specialist Regional Bodies (SRBs) of the Asia-Pacific Economic Cooperation (APEC) Subcommittee on Standards and Conformance (SCSC)
- PASC's Standing Committee (SC) is responsible for the implementation of PASC policy and for the day-to-day management of the organization

### What does PASC do?

- Provides countries in the Pacific Rim with a forum to exchange information and views about international standardization activities and strengthen positions at the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC)
- Develops recommendations, through a consensus-process, on international standardization issues of importance to members
- Promotes standardization as a means of improving economic efficiency, free trade and development in the region
- Assists countries within the region in improving their capacity for and/or improving the quality of their standardization infrastructure
- Interacts with other bodies that represent elements of the standardization technical infrastructure, industry, consumers and government

### Why is PASC important to APEC?

- To enhance the ability of members to influence regional initiatives and recommendations put forward to the international standards bodies
- To strengthen alliances, form consultative liaisons and exchange information
- To complement members' participation in APEC

#### **PASC**

#### **Membership:**

Australia  
 Brunei  
 Darussalam  
 Canada  
 China  
 Colombia  
 Fiji  
 Hong Kong -  
 China  
 Indonesia  
 Japan  
 Republic of  
 Korea  
 Malaysia  
 Mexico  
 Mongolia  
 New Zealand  
 Papua New  
 Guinea  
 Philippines  
 Singapore  
 South Africa  
 Thailand  
 US  
 Vietnam

- To identify areas where members can share technical knowledge and transfer standardization models
- To address evolving strategic issues in international standardization and examine possible changes in the current international structures, approaches and organizations

### **When does PASC meet?**

- PASC holds an annual meeting in the home country of its current chair, which rotates annually amongst its members
- The Standing Committee meets during the PASC annual meeting, and also holds sessions during the year, typically in conjunction with APEC SCSC and ISO General Assembly meetings

### **What's happening at PASC?**

- PASC members recently adopted a number of important resolutions concerning international standardization, the work of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), and communication and interrelationships among members
- During a recent review of its action plan, PASC highlighted the following priorities:
  - Identifying ISO and IEC technical work of greatest common interest to PASC members
  - Encouraging increased collaboration between ISO and IEC
  - Holding a joint meeting with COPANT in 2007
  - Creating a network for standards for accessibility
  - Enhancing cooperation with APEC SCSC and other SRBs
  - Establishing formal liaisons with ISO and IEC
  - Assembling a catalogue of training resources available from PASC members

### **How can I learn more about PASC?**

- Visit the PASC Website: [www.pascnet.org](http://www.pascnet.org)
- Contact the PASC members at: [www.pascnet.org/public/roster.asp](http://www.pascnet.org/public/roster.asp)



## **APPENDIX C**

### **What is PAC ?**

- The Pacific Accreditation Cooperation (PAC) is a voluntary, independent association of 21 accreditation bodies and other interested parties, representing countries of the Asia-Pacific region.
- Established in 1991, PAC is one of five Specialist Regional Bodies (SRBs) of the Asia-Pacific Economic Cooperation (APEC) Sub-committee on Standards and Conformance (SCSC).
- PAC's Executive Committee (EC) is responsible for the implementation of PAC policy and for the day-to-day management of the organization.
- PAC operates within the framework of the International Accreditation Forum (IAF), and in cooperation with other regional groups of accreditation bodies around the world.

### **What does PAC do?**

- PAC's main objective is to facilitate trade and commerce among economies in the Asia-Pacific region.
- In order to achieve this objective, PAC aims for the creation of a global system that grants international recognition of certification of management systems, products, services, personnel and other programs of conformity assessment.
- PAC facilitates world trade by working to remove technical barriers that stem from demands for certification of management systems, products, and like processes.
- The primary means by which PAC will achieve this is by the establishment of Multilateral Recognition Arrangements (MLAs) which provide for world-wide recognition of certificates of conformity issued by certification bodies accredited by the IAF.
- PAC has established a multilateral mutual recognition group and monitors its activities, ensuring that MLA members maintain accreditation programs of world standard.
- PAC also engages in the following activities:
  - encourages and supports the development of accreditation bodies in the region's economies
  - provides coverage for accreditation services in those economies where an accreditation body does not exist.
  - provides a forum for achieving consensus among members on relevant accreditation and certification or registration issues
  - encourages support for, and participation in, conformity assessment activities of relevant international bodies

- encourages and facilitates the adoption and implementation of standards, guidelines, and interpretive documents that have been developed by relevant international bodies
- develops recommendations for liaison with relevant international bodies
- facilitates collaboration, cooperation, and mutual assistance among members, by means including seminars, meetings of experts, and the sharing of information and experiences.

### Why is PAC important to APEC?

- PAC works with and complements the activities of other APEC regional bodies on standards, laboratory accreditation and metrology.
- PAC supports APEC in achieving its mutual recognition goals within the region.
- PAC helps APEC members to strengthen alliances, form liaisons and exchange information.
- PAC helps APEC members to identify areas where they can share technical knowledge.

### When does PAC meet?

- The PAC plenary is held annually.
- The PAC EC meets as frequently as is necessary.

### What's happening at PAC?

- The Asian Accredited Certification Body Federation (AACBF) held its first meeting in February. The organization has now been established as a legal entity and a Code of Conduct has been signed by all members. AACBF was formed to provide Certification Body (CB) input to PAC from a regional perspective.
- All PAC MLA group members and applicants have completed their declarations of compliance with ISO/IEC 17011 *Conformity Assessment—General requirements for accreditation bodies accrediting conformity assessment bodies*.
- The PAC Chair attended the February APEC SCSC meeting in Vietnam to report on PAC activities and to discuss how SRBs could better support the work of SCSC.

### How can I learn more about PAC?

- Visit the PAC Website: [www.apec-pac.org](http://www.apec-pac.org)
- Contact the PAC Members: [www.apec-pac.org/pacmember.php](http://www.apec-pac.org/pacmember.php)



## **ASIA PACIFIC LABORATORY ACCREDITATION COOPERATION – APLAC**

### **What is APLAC?**

The Asia Pacific Laboratory Accreditation Cooperation is a cooperation of laboratory, inspection body and reference material producer accreditors in the Asia Pacific region. Its current geographic reach is the APEC region plus India, Mongolia and Pakistan.

APLAC was established in 1992, with the APLAC Memorandum of Understanding (MOU) being signed in 1995. It is one of the five Specialist Regional Bodies (SRBs) recognized by the APEC Sub-Committee on Standards and Conformance (SCSC). It is a recognized region of the International Laboratory Accreditation Cooperation (ILAC).

The APLAC General Assembly is the primary body of APLAC and the Board of Management is responsible to the General Assembly for the effective pursuit of APLAC objectives and for the day-to-day management of APLAC. The APLAC secretariat supports the work of the General Assembly and of the Board.

### **APLAC's Objectives**

APLAC's objectives include:

- provide a forum for exchange of information and to promote discussion among accreditors of laboratories, inspection bodies and reference materials producers
- develop procedures for evaluating organizations that participate in the APLAC Mutual Recognition Arrangement (MRA), and for evaluating the MRA's effectiveness
- promote the APLAC MRA and the ILAC Arrangement
- organize interlaboratory comparisons among laboratories in the region
- build up and maintain confidence in the technical competence of APLAC Full members, and work towards expansion of the APLAC MRA
- cooperate with other national, regional and international bodies with similar or complementary objectives.

### **APLAC's Role**

- Development of laboratory, inspection body and reference material producer accreditation procedures and practices in the APEC region
- Promotion of laboratory, inspection and reference material producer accreditation as a trade facilitation tool
- Assistance to developing accreditation bodies
- Recognition of competent test, and calibration laboratories, inspection bodies and reference material producers in the APEC region
- Cooperation with other ILAC regional accreditation cooperations.

### **What is the APLAC MRA?**



The APLAC multilateral MRA was established for testing and calibration in 1997 with seven inaugural signatories. It replaced a network of bilateral MRAs. The scope of the MRA was extended in 2000 to include inspection and, in 2006, is being extended to include reference material producers.

Under the MRA each signatory acknowledges the equivalence of accreditations of all other signatories:

- signatories demonstrate, through a peer review process, compliance with ISO/IEC 17011
- accredited facilities demonstrate through a peer assessment process compliance with
  - ISO/IEC 17025 – testing and calibration laboratories
  - ISO 15189 – medical (clinical) laboratories
  - ISO/IEC 17020 – inspection bodies
  - ISO/IEC Guide 34 and ISO/IEC 17025 – reference material producers

A facility accredited by one MRA signatory for specified tests, calibrations, inspections or reference material production has equivalent competence to a facility accredited by other MRA signatories.

The APLAC MRA enhances acceptance of test and calibration data, inspection reports and reference material certificates among signatory economies, thus eliminating the need for retesting, re-inspection or re-certification, and facilitating trade. In the regulated sector, laboratories and inspection bodies can be accredited for compliance with domestic and foreign regulators.

There are currently 24 signatories to the APLAC MRA, 10 of which are also signatories for inspection. APLAC achieved one of the Bogor objectives by having all member developed economies as signatories to the MRA by the end of 2000, and all member developing economies as signatories to the MRA by the end of 2005.

#### **APLAC's Importance to APEC**

- Trade facilitation through the geographic reach of the APLAC MRA: tested or inspected once, accepted throughout the region; linkage internationally through the ILAC Arrangement: tested once, accepted internationally
- APLAC MRA underpinning of the APEC TEL MRA and APEC EEMRA
- Regional input to international developments in the area of accreditation.
- Technical support for developing economies
- Supporting the objectives of APEC in general and APEC SCSC in particular through the APLAC MRA and ongoing capacity building for accreditation bodies in developing economies

#### **APLAC Activities**

- annual week of meetings: General Assembly, MRA Council, Board of Management, Committees; hosted by a different member economy each year
- mid-year meeting of MRA Council and Board of Management
- representing APLAC (regional) concerns at the ILAC (international) level
- MOUs with APMP and PAC
- participation in SCSC including attendance at meetings and comment on SCSC documents
- capacity building in the APEC region, starting with a gap analysis of the needs of accreditation bodies that were not yet signatories to the APLAC MRA, and including training of MRA peer evaluators; pre-peer evaluation visits for applicants for APLAC MRA signatory status; attachment training for staff from developing accreditation bodies at more mature accreditation

- organization of regional proficiency testing programs and measurement audits to support a demonstration of technical competence of laboratories in the APEC region
- training courses and workshops
  - ISO/IEC 17011 peer evaluation processes
  - accreditation of inspection bodies
  - accreditation of reference material producers
  - operation of proficiency testing programs to ISO/IEC Guide 43
  - train the trainers
- APLAC web site: [www.aplac.org](http://www.aplac.org)
- project to promote the APLAC MRA to regulators in the APEC region and to identify regulator needs from APLAC and its members
- development of promotional material to assist with education or accreditation issues
- production of guidance documents on various technical issues related to accreditation
- production of outline of training course for ISO/IEC 17025 lead assessors

### **APLAC Membership**

Australia: NATA\*  
 Brunei Darussalam: Ministry of Development  
 Canada: SCC\*, CAEAL\*  
 People's Republic of China: CNAS\*  
 Hong Kong China: HKAS\*  
 India: NABL\*  
 Indonesia: KAN\*  
 Japan: JAB\*, IAJapan\*, VLAC\*, JCLA  
 Korea: KOLAS\*  
 Malaysia: DSM\*  
 Mexico: ema\*  
 Mongolia: MASM  
 New Zealand: IANZ\*  
 Pakistan: PNAC  
 Papua New Guinea: PNGLAS  
 Philippine: BPSLAS\*  
 Singapore: SAC\*  
 Chinese Taipei: TAF\*  
 Thailand: DMSc\*, DSS, TLAS\*  
 USA: A2LA\*, ACLASS, IAS\*, L-A-B, NVLAP\*, PJLA  
 Vietnam: BoA\*  
 Australasia: JAS-ANZ

\* signatory to APLAC MRA

**Contact:** [aplac@nata.asn.au](mailto:aplac@nata.asn.au)



## APPENDIX E

### What is APMP ?

- The Asia-Pacific Metrology Programme (APMP) is responsible for developing international recognition of the measurement capabilities of the region's national and territorial measurement laboratories
- The APMP was formed as a Commonwealth Science Initiative in 1977. As such, it is the oldest continually operating metrological grouping in the world
- The APMP was formed to help participating members develop their metrological capabilities
- The APMP MoU was finalized in 1997

### What does APMP do?

- Provides a forum for information exchange on measurement standards and capabilities
- Provides international credibility for measurement traceability and competence as a basis for global Mutual Recognition Arrangement (MRA) for metrology standards and calibration certificates issued by National/Territorial Metrology Institutes
- Provides training of personnel to upgrade measurement capability within the region
- Provides traceability of measurement through calibration and comparison of national/territorial standards
- The APMP extends collaboration with BIPM and also with other counterpart regional bodies, e.g., EUROMET, SADCMET, SIM(NORAMET, SURAMET etc.), COOMET, MENAMET

### Why is APMP important to APEC?

- The APMP explicitly supports APEC objectives
- The APMP MRA and MoU further the APEC goal of regional trade-facilitation
- The APMP coordinates with other APEC-Region SRBs
- The APMP, along with SIM, is involved in an APEC TILF project- running workshops on the implementation of Quality Systems in National Metrology institutes

### When does APMP meet?

- The APMP Executive Committee meets at least twice annually
- The APMP General Assembly meets once a year

### What's happening at APMP ?

- The 21<sup>st</sup> APMP General Assembly was held in Jeju, Korea, from September 7<sup>th</sup> to 8<sup>th</sup>, 2005
- The APMP participated in a joint workshop with SIM on the implementation of Quality Systems in National Metrology institutes. The workshop was an APEC TILF project

### How can I learn more about APMP ?

- Visit the APMP Website: [www.apmpweb.org](http://www.apmpweb.org)
- Contact the APMP Members: [www.apmpweb.org](http://www.apmpweb.org)



# APLMF

Asia-Pacific Legal Metrology Forum



## Appendix F

### What is APLMF ?

- The Asia-Pacific Legal Metrology Forum (APLMF) is a regional body in the legal metrology field. It is composed of 26 member economies- 20 full members and 6 corresponding members
- APLMF was established in 1994
- APLMF aims to harmonize measurement systems in the Asia-Pacific region
- Currently, Japan holds the Presidency and the Secretariat of the APLMF

### What does APLMF do?

- The forum and member economies make efforts to enhance confidence in metrological harmonization through legislation- this enhances trade facilitation through the reduction of transaction costs
- APLMF also provides training courses for developing economies in metrological standards-development
- The actual activities of APLMF occur in Working Groups (WGs) with the assistance of the secretariat. The WGs undertake specific tasks, which are limited in time and have clearly defined terms of reference. Presently there are 8 WGs that deal with the following 8 areas:
  - Training Coordination
  - Goods Packed by Measure
  - Utility Meters
  - Mutual Recognition Arrangements
  - Medical Measurements
  - Measurement of Moisture
  - Traceability in Legal Metrology
  - Pattern Compliance

### Why is APLMF important to APEC ?

- APLMF has worked closely with the APEC-SCSC and other SRBs, such as PASC, PAC, APLAC and APMP, to develop structures for international harmonization of trade and legal measurements
- APEC-SCSC identifies international harmonization in legal metrology as a priority field for trade-facilitation
- APLMF works with the APEC SCSC on training courses designed to encourage more participation from developing economies in ongoing international activities. APLMF provides training courses that are part of an APEC project supported by the APEC-TILF fund (CTI 11/2006T)

### When does APLMF meet?

- The APLM Forum meeting, and the WGs Meetings, are held annually

## What's happening at APLMF ?

- For FY 2005-2006, APLMF will be providing the following Seminar and Training Courses:

<b>Course Title</b>	<b>Date</b>	<b>Place</b>
Training Course on Fuel Dispensers	April 2005	Thailand
Training Course on Non-automatic Weighing Instruments	September 2005	Indonesia
Seminar on Clinical Electrical Thermometers	December 2005	Chinese Taipei
Training Course on Electricity Meters	February 2006	Vietnam
Training Course on Practical Application of OIML R87 on Pre-packaged Goods	April 2006	Malaysia
Training Course on CNG Fuel Dispensers	June 2006	Malaysia
Seminar on Automated Sphygmomanometers	July 2006	Chinese Taipei
Training Course on LPG Fuel Dispensers	August 2006	PR China
Seminar on Food Safety and Agricultural Metrology	Early 2007	Thailand
Training Course on Electricity Meters	Early 2007	To be decided

## How can I learn more about APLMF ?

Visit the APLMF Website: [www.aplmf.org](http://www.aplmf.org)

Contact the APLMF Members: [www.aplmf.org/members/index.html](http://www.aplmf.org/members/index.html)

## **Appendix G**

### **LIST of ACRONYMS:**

ABAC	- APEC Business Advisory Council
ACCSQ	- ASEAN Consultative Committee on Standards and Quality
APEC	- Asia Pacific Economic Cooperation
APLAC	- Asia Pacific Laboratory Accreditation Cooperation
APLMF	- Asia Pacific Legal Metrology Forum
APMP	- Asia Pacific Metrology Programme
ASEAN	- Association of Southeast Asian Nations
BIPM	- International Bureau of Weights and Measures (Bureau International des Poids et Mesures)
CE	- Marking to indicate Conformance to European directives (Conformité Européene)
CEN	- European Committee for Standardization (Comité Européen de Normalisation)
CENELEC	- European Committee for Electrotechnical Standardization (Comité Européen de Normalisation Electrotechnique)
COPANT	- Pan American Standards Commission
CTI	- APEC Committee on Trade and Investment
EMS	- Environmental Management System
EU	- European Union
IAF	- International Accreditation Forum
IEC	- International Electrotechnical Commission
ILAC	- International Laboratory Accreditation Cooperation
ISO/CASCO	- ISO Committee on Conformity Assessment
ISO/DEVCO	- ISO Committee on Developing Country Matters
ISO	- International Organization for Standardization
MoU	- Memorandum of Understanding
MLA	- Multilateral Recognition Arrangement
MRA	- Mutual Recognition Arrangement
NAFTA	- North American Free Trade Agreement
NSB	- National Standards Body
OIML	- International Organization of Legal Metrology
PAC	- Pacific Accreditation Cooperation
PASC	- Pacific Area Standards Congress
QMS	- Quality Management System
SCSC	- Sub-Committee on Standards and Conformance
SI	- International System of Units
SRB	- Specialist Regional Body
TBT	- Technical Barrier to Trade
TILF	- APEC Trade and Investment Liberalization and Facilitation
WTO	- World Trade Organization