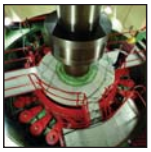
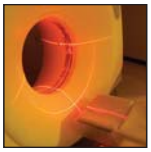
United States National Committee of the IEC

News and Notes

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Electrotechnical Conformity Assessment in the Global Market

From safe and reliable consumer electronics to interoperable IT components, conformity assessment is the tool by which organizations in the global market can verify and demonstrate the adherence of their products, services, and systems to the highest quality International Standards. The International Electrotechnical Commission (IEC) is committed to assuring that its conformity assessment systems meet the changing needs of the electrotechnology community.

by Rich Pescatore, P.E.

USNC/IEC Council Creates Conformity Assessment Policy Coordinating Committee

Conformity assessment policy is a topic of significant interest to manufacturers, third-party certifiers, and regulators alike. Within the American National Standards Institute (ANSI), conformity assessment (CA) issues have been dealt with in various committees, including the Conformity Assessment Policy Committee (CAPC) under ANSI's Executive Committee, and the IEC Conformity Assessment Board Policy Coordinating Committee (CABPCC) under the USNC/IEC Council. The CABPCC was focused on issues being addressed in the IEC Conformity Assessment Board (CAB).

In 2009 it was recognized by the USNC/IEC Council that the scope of the CABPCC was too narrow. It needed to be expanded to deal with all CA issues within the IEC global agenda. In addition, better coordination was needed between the work conducted within the USNC/IEC Council and other ANSI committees dealing with CA. As a result, effective January 1, 2010, the CABPCC was disbanded and the Conformity Assessment Policy Coordinating Committee (CAPCC) was formed. I was elected chairman of the CAPCC for a period of three years, and Charlie Zegers, general secretary of the USNC/IEC, is serving as the CAPCC secretary. I currently also hold the position of USNC CAB representative and serve with Joan Sterling of Intertek Testing Services, who is the USNC CAB alternate.

The CAPCC reports directly to the USNC/IEC Council. The purpose of the group is to coordinate USNC positions on electrotechnical CA issues which specifically relate to or impact the IEC global agenda. The CAPCC has the responsibility to ensure that when such issues are identified, USNC consensus positions are developed and represented in the appropriate national, regional, and international CA groups. Some areas we are looking at are personnel certification, the International Telecommunication Union (ITU), counterfeiting, and energy efficiency.

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FEATURED ARTICLE

Electrotechnical Conformity Assessment in the Global Market (continued)

Counterfeit products

By way of example, one area I am personally involved with and will be working on is how to deal with counterfeit products. A CAB Working Group (WG) has recommended that each system require national certification bodies (NCBs) to ask for a statement from the manufacturer declaring that, to the best of their knowledge, no part of the product in question violates intellectual property (IP) protection.

While such a statement seems reasonable at first glance, a review by several attorneys has suggested that such a statement is unlikely to afford any protection to the NCB and would require an extensive review of the entire supply chain by the manufacturer, resulting in an onerous task with little benefit. Manufacturers in high-tech industries typically have complex supply chains, further exasperating the issue.

The former CABPCC went on record opposing any action by the CAB on this issue. As a result of our opposition, the CAB has requested input from each of the IEC CA systems prior to taking action. The CAPCC will continue to monitor the direction taken by the CAB and may ultimately seek additional input from the legal community.

Protection of IP is obviously important to industry; however, one must question the logic of trying to deal with the topic in the IEC.

Committee kickoff

A "kickoff" teleconference of the CAPCC was held March 3, 2010. The teleconference was used to lay the foundation for the group by reiterating the terms of reference as stated in USNC Council 392, including its purpose, responsibilities, membership, and how to conduct business. The CAPCC established a formal liaison with the CAPC and is examining other possible groups as well.

The CAPCC agreed that it would be beneficial to elect a vice chair to support the duties of the chair. CAPCC members interested in being nominated for the vice chair position are invited to make their interest known to the chairman and secretary. The CAPCC also agreed that it would be desirable to expand the at-large membership in order to gain the broadest representation of stakeholders possible.

Anyone with an interest in joining the CAPCC who is a member of the USNC Council, USNC Technical Management Committee (TMC), any of the three IEC system USNC mirror committees, or any other relevant ANSI committee is encouraged to contact the chairman or secretary to be considered for nomination as a member-at-large. Members-at-large serve for consecutive periods of 2 years.

Rich Pescatore, P.E., global product safety standards development and certifications schemes manager at Hewlett-Packard, is the chair of the USNC/IECEE Conformity Assessment Policy Coordinating Committee (CAPCC).

The next meeting of the CAPCC, in preparation for the June meeting of the CAB, will take place immediately following the USNC TMC meeting on May 11, 2010, at 4 p.m. in the Washington, DC, area.

Further information

For more on the activites of the CAPCC or to join, contact CAPCC secretary Charlie Zegers (212.642.4965, czegers@ansi.org). ■

The Three IEC Conformity Assessment Systems

The IEC has three multilateral conformity assessment systems: the IECEE, the IECQ, and the IECEx. Using IEC standards for certification at the national level ensures that a certified product has been manufactured and type-tested to well-established International Standards. The end user can be sure that the product meets specific quality standards, and need not be concerned with further testing or evaluation of the product.

IECEE: IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components The IECEE was recently chosen as the platform for implementing the Global Approval Program for Photovoltaics (PV GAP). The IECEE has two branches:

- CB Scheme for Mutual Recognition of Test Certificates for Electrotechnical Equipment and Components
- CB-FCS Scheme for Mutual Recognition of Conformity Assessment Certificates for Electrotechnical Equipment and Components

IECEx: IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres

IECQ: IEC Quality Assessment System for Electronic Components

FEATURED ARTICLE

Standards and Conformance in China: Behind the Headlines

by Elise Owen

A recent string of high-profile standards-related events in China has focused attention on the importance of standards to global trade – and on the ability of U.S. companies to enter and compete in the Chinese market. Recent "hot issues" related to standards and conformance in China include patents and intellectual property, environmental regulations such as restrictions on hazardous substances, supply-chain safety, information security regulations, and limitations on foreign participation in China's standards development processes.

Standards and conformance serve as the unseen foundation for and as the international language of commerce. When applied and used well, they provide the basis for interoperability of technologies, support innovation, and increase consumer trust and confidence; when misapplied, they can disrupt trade and create market barriers. When a country's standards and conformance differ too greatly from international best practices, foreign and domestic companies alike face greater barriers to market access.

China's top-down approach

Several government bodies in China receive funding and have a mandate to decide not only which standards to develop, but also the processes and fora used to develop them. These bodies often offer incentives and other mechanisms to push standards of their choice into broad use within the Chinese market.

The top-down approach has helped China's standards and conformance systems develop rapidly. China's current systems are relatively new and have been built largely from scratch since China joined the World Trade Organization (WTO) in 2001. But China's top-down approach has also made it more difficult for private stakeholders to participate in the standards-setting process. In some cases, a single leader or group of officials will make decisions without the benefit of the collective knowledge of all stakeholders and experts, leading to standards and conformance approaches that are impractical and unevenly enforced, limit access for foreign products, or entrench inferior or outdated technologies.

Regional views

In China, a strong belief prevails that the government must solve important environmental, health, safety, and quality issues. Many Chinese decision makers believe that the government is more reliable and capable than the private sector to carry out effective standards and conformance, so the government often steps in to offer authoritative solutions. This system can create highly bureaucratic and cumbersome standards and conformance requirements, which in turn force U.S. companies to repeat costly testing, inspection, or certification activities that they have already conducted for the U.S. and other major global markets.

For example, under the China Compulsory Certification (CCC) program, which affects more than 20 percent of U.S. exports to China, certification must be carried out in China by designated certification bodies (DCBs) affiliated with the government. Conformity assessment work that has already been conducted by qualified private-sector organizations, including assessments that are typically accepted in the U.S. and other international markets, must be repeated by Chinese test labs and certification bodies.

Because DCBs rarely have a presence outside China, companies that export products to China must arrange and fund travel for a Chinese agent to conduct pre-market inspections at the manufacturer's location and submit to subsequent routine inspections after receiving the CCC mark. Though the costs associated with processing a CCC mark can be significant, most companies report more pressing concerns about delays to market – particularly for new product scopes as they are added to the CCC catalogue – and disadvantages for foreign companies that must compete with Chinese entities, which enjoy more direct access to testing, inspection, and certification services. U.S. companies have also expressed concern that proprietary product designs and manufacturing methods could be compromised during the certification process, given the close ties that many Chinese testing and certification bodies appear to have with Chinese manufacturers.

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Standards and Conformance in China: Behind the Headlines (continued)

Openness and transparency

In the U.S., openness and transparency are cardinal principles of the standardization system. But the Chinese approach to standards and conformity assessment has not traditionally placed the same value on openness, transparency, and broad stakeholder consultation. U.S. companies that produce for the Chinese market frequently complain of sudden changes to requirements without advance notice and report challenges in identifying the standards, regulations, and other requirements for their products in China. They also find it difficult to identify and monitor the progress of, and provide input on, standards and regulatory developments. This is particularly true of standards developed outside of China's national standards structure, such as industrial standards and regulations used by individual People's Republic of China (PRC) government regulatory agencies.

Inadequate openness and transparency reduce domestic and international scrutiny of Chinese standards and conformance requirements, prevent experts from providing input on ways to make requirements more effective and practical, and remove pressure for requirements to be developed in accordance with international approaches.

Since entering the WTO, China has made significant improvements to the transparency of its system. As a WTO member, China has committed to notifying the WTO secretariat of new or proposed changes to technical regulations that could affect trade significantly and to consider comments from all other WTO members. The number of Chinese notifications has risen from 40 in 2003 to 184 in 2008. This is in part because China has adopted new technical regulations that aim to protect the environment, human health, and safety, and also because China has increased its capacity to meet its WTO obligations.

Another positive example is China's work with the American National Standards Institute (ANSI) to develop the StandardsPortal website. China's progress is promising, and it presents opportunities for the U.S. to share its perspectives and experiences with PRC regulators and standards developers on how openness and transparency can help accomplish their objectives more effectively, as well as provide technical assistance and practical guidance on increasing transparency.

When a country's standards and conformance differ too greatly from international best practices, foreign and domestic companies alike face greater barriers to market access.

Issues of inconsistent implementation

It is common for PRC officials to work out practical details of implementation and enforcement after a requirement has already taken effect. For instance, a regulation that requires a product to be tested in an "approved facility" may enter into force before facilities have been approved. This lack of clear implementation details tends to affect foreign companies disproportionately because they often lack the relationships with PRC standards agencies that domestic companies have and thus may find it more difficult to get clarification directly from the agency concerned.

Recent public health and safety scares involving imports of Chinese tires, food, toys, and other products have exacerbated this problem, because China's response to such concerns has generally been to create more stringent standards and regulations. This approach fails to solve key concerns: incomplete implementation and inadequate enforcement of existing requirements. The resulting requirements are increasingly onerous, less likely to be enforced for domestic companies, and even less effective at reducing threats to the environment, human health, and safety.

Actions that U.S. companies can take

U.S. companies may feel overwhelmed by the scope of standards and conformance–related challenges they encounter when doing business in China, but most problems are solvable with the proper level of engagement and participation on both sides. Capacity building and cooperation initiatives carried out by the U.S. government, ANSI, the U.S.–China Business Council (USCBC, publisher of the *China Business Review*), and others are already helping to address differences and deficiencies between the U.S. and PRC systems.

Individual companies must also take preventive action to understand standards and conformance in China, because that is the most effective way to address these challenges. For example, companies should:

- Identify the departments or individuals within the company who are responsible for standards or regulatory affairs, and work with them to share information across geographic responsibilities and business units.
- Establish and maintain relationships with PRC government agencies responsible for standards, conformity assessment, and regulations that affect the company's products. Companies should meet with these agencies regularly to gain an understanding of these agencies' needs, challenges, goals, and objectives and

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Standards and Conformance in China: Behind the Headlines (continued)

position themselves as a partner that can support these agencies.

- Establish and maintain relationships with Chinese industry through Chinese trade associations, technical committees, and conferences. Companies should work formally and informally to identify and pursue common goals and concerns for standards and conformance.
- Use resources provided by ANSI, the U.S. government, USCBC, and others to gain "early warning" on possible standards and conformance developments that could affect their products. Companies should share potential concerns with these organizations to help focus information-gathering efforts and discuss concerns and share practical recommendations with PRC officials before standards, regulations, or policies are published.
- As standards issues in China are increasingly crosscutting, coordinate and share experiences with companies in other industry sectors.

When standards and conformance issues do arise, companies should consider the following actions:

- **Work with others to develop a coordinated approach.** Use the resources of ANSI, the U.S. government, USCBC, and other trade associations to support advocacy efforts and show a united front.
- **Focus on the facts.** Standards issues are typically complex. When discussing a concern with PRC officials, companies should know which policy or regulation is causing problems and how it differs from approaches in the U.S., Europe, and other regions. It is more effective to present facts about how the requirement affects the company's business than to share opinions about what PRC officials "ought to do."
- **Seek help from other PRC agencies.** When faced with a problematic policy or requirement, it is tempting to approach the responsible agency directly to discuss concerns. Though this is an important first step, companies may want to consider other PRC government agencies that may share – or at least be more sympathetic to – company concerns. Companies should consider whether the problem they are facing could affect the competitiveness of Chinese industry, China's ability to innovate, or China's ability to obtain cutting-edge equipment to support societal needs, such as medical devices that save lives or agricultural equipment that helps increase crop yields. ■

Elise Owen (eowen@ansi.org) is director of the China program and director of international development at the American National Standards Institute (ANSI).

Case Study: Foreign Participation on Chinese Technical Committees

To increase transparency and consistency among Chinese national technical committees, the Standardization Administration of China (SAC) released an announcement in 2008 that formalized the operating procedures of Chinese technical committees. Transparency in China's standards, conformity assessment, and regulatory system has been a key area of concern for the American National Standards Institute (ANSI) and its members, and China's effort to formalize and post technical committee operating procedures publicly – as part of broader initiatives to make the Chinese system more transparent – is a positive development.

One clause in the recent SAC announcement raised concern, however. This clause stated that "it is permitted that the foreign enterprises can send people as observers to take part in activities of related technical committees." Typically in such PRC documents, an option not explicitly "permitted" is not allowed. The new regulations thus created concern for many U.S. companies that had made significant investment to gain access to standards development in China and that had either already lost voting rights on Chinese technical committees or feared that they would under the new policy.

ANSI raised these concerns with SAC, using the jointly established StandardsPortal website as a compelling example of how U.S.–based standards developers welcome – and even recruit – participation from international experts and how this strengthens standardization in the United States. The issue was also raised by the U.S. government during the 2008 meeting of the U.S.–China Joint Commission on Commerce and Trade. In early 2009 SAC revised its policy to indicate that representatives of entities legally registered within China may participate in Chinese national technical committees as voting members at the discretion of the technical committee chair. With this announcement, the voting rights of companies on Chinese technical committees that had been in jeopardy were restored.

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IECQ Looks to Grow in 21st Century

On January 1, 2010, Dave W. Smith began his third three-year term as chairman of the IEC Quality Assessment System for Electronic Components (IECQ) Management Committee. Since 2004, the year his tenure began, IECQ has developed tremendously to become a truly global certification system recognized by the electronic component industry.

While the more traditional sector of component certification has progressed smoothly over the years, two new areas of certification have emerged rapidly and become extremely successful for IECQ:

IECQ Electronic Component Management Plan (ECMP) This program was initially put together and driven by Boeing in the U.S, for avionics in particular. The key person behind ECMP was Lloyd Condra, who not only worked for Boeing but was also vice chairman of the IECQ Management Committee until the end of 2009. Nowadays, both Boeing and Airbus use IECQ ECMP to help in component acquisition for their new airplanes.

The IECQ ECMP program is looking to expand into other fields of activity. Two working groups (WGs) have been set up to consider the automotive and railway sectors. Work is just beginning and requires a strong involvement from industry. Medical devices is another potential area under consideration, but the process is still in its early stages.

IECQ Hazardous Substances Process Management (HSPM) This program was developed in 2005 to address elimination of hazardous substances in electronic components and related processes and materials. The program has had huge success, with more than 2,000 certificates issued to date.

The program was launched at a time when the European Union and several countries were putting in place legislation to restrict or prohibit the use of hazardous materials in components and devices. This meant that industry demand for certification in that field was bound to grow as well. While up to now the vast majority of IECQ HSPM certificates have been issued to Asia-based companies – the region of origin of the greatest number of electronic component manufacturers – the demand for certification is going to increase globally.

To promote IECQ HSPM, the Electronic Components Certification Board (ECCB), the U.S. National Authorized Institution (NAI) for the IECQC, launched a television campaign on March 1, 2010. The NAI is also looking at a mark for the U.S. market, to be managed by ECC Corporation, a parent body of the NAI. Any company that has a valid IECQ certificate in HSPM would be able to use the mark. All matters relating to registration and mark will be dealt with by the U.S. NAI. The websites and other supports that they are setting up for these initiatives could potentially create much new business for the certification bodies.

The standard on which IECQ HSPM is based – IECQ QC 80000, *Electrical and Electronic Components and Products Hazardous Substance Process Management System Requirements (HSPM)* – was prepared jointly by two American bodies, the Electronic Industries Alliance (EIA) and ECCB. IEC International Standards in the hazardous substance area are being developed by IEC Technical Committee (TC) 111: *Environmental standardization for electrical and electronic products and systems,* and should be adopted by IECQ whenever relevant. ■

IECQ Chairman Dave W. Smith

IECQ Participation & Leadership

Historically, the 17 countries participating in IECQ have, or had, a strong electronic component industry sector, even if today the bulk of that manufacturing – and the vast majority of IECQ HSPM certificates issued – is in the Asia Pacific region.

The last three countries to join the system were Australia, Brazil, and Singapore. But there is still room for growth. Any IEC Member through its National Committee (NC) can join IECQ. Even if the electronic industry sector is not developed, countries may see benefits in participating in the system. Any IEC NC that has IECQ-certified companies could consider membership.

New IECQ Management in Place since January 1, 2010

IECQ Management Committee (MC):

- Chairman – Dave W. Smith
- Vice-Chairman – Michel Brenon, Union Technique de l'Électricité (UTE)/Laboratoire Central Des Industries Electriques (LCIE)

IECQ Conformity Assessment Bodies Committee (CABC):

- Chairman – Juyong Wan, China Electronic Product Reliability and Environmental Research Institute (CEPREI)
- Vice-Chairman – Chris Yau, SGS

IECQ

- Treasurer – Joe V. Chapman, Electronic Components Certification Board (ECCB)
- Executive Secretary – Chris Agius

IEC General Secretary – Aharon Amit

IEC Conformity Assessment Programs Help Reduce Unseen Hazards

Many consumer goods rely heavily on electronics. From household appliances to office equipment, toys, and entertainment devices, electronics are part of everyday life, and people want them to be 100-percent safe and reliable.

Most consumers are well aware of the risks associated with electrical hazards such as faulty cords or switches, overheating, bad insulation, and abnormal use of products. But are consumers aware of the risks posed by defective or low-quality electronic parts? Perhaps not. These parts are tiny, usually well-hidden inside the equipment and therefore not seen as an obvious danger. They include:

- active components, including integrated circuits
- electromagnetic components
- electromechanical components
- electro-optic components
- hybrid integrated circuits
- passive components
- printed boards

Defective parts such as these can cause a product to malfunction, reduce performance, or produce overheating, which in turn may cause fires or explosions.

Manufacturers around the world are under great pressure to reduce the hazardous substances that can be found in electronic waste.

Hazardous substances

Many electronic components contain hazardous substances such as lead, cadmium, or mercury. Such substances may be dangerous for the workers manufacturing the components as well as for the end-users.

An additional problem comes at the end of the product life cycle: how to deal with waste. Manufacturers are under great pressure to produce "clean" products in order to comply with legislation restricting the use of hazardous substances in electronic products and components. The pressure is even greater as the life cycle of electronic components becomes shorter and shorter.

Australia, China, Norway, South Korea, Switzerland, Thailand, and the state of California are among those legislatures that have passed, or are considering, laws limiting the use of hazardous substances in electrical and electronic products. The European Union's Restrictions of Hazardous Substances (RoHS) in electrical and electronic equipment and Waste Electrical and Electronic Equipment (WEE) directives took effect in July 2006, and revisions are currently under consideration.

IECQ solutions

The IEC Quality Assessment System for Electronic Components (IECQ) is a worldwide approval and certification system covering the supply of electronic components and associated materials and processes. It uses quality assessment specifications based on International Standards prepared by the IEC. There are several types of approvals:

- **Supplier approval** is the first and obligatory level of approval and applies to manufacturers, distributors, and specialist contractors. It exceeds the relevant requirements of ISO 9001, *Quality management systems - Requirements*.
- **Qualification approval** applies to components that meet the requirements of the accepted specifications.
- **Capability approval** defines a manufacturer's ability in respect of manufacturing processes and quality control methods. It may include design, covering a specific component technology within a generic specification.
- **Process approval** covers a nominated process, providing a means of verification of compliance with a defined specification or standard, for example, IEC 61340-5-1, *Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements*.
- **ECMP approval** refers to certification of an Electronic Component Management Plan (ECMP) for compliance with IEC TS Technical Specification (TS) 62239, *Process management for avionics – Preparation of an electronic components management plan*. It was initially applied to the aviation industry as a means to provide aircraft manufacturers with a global assessment and certification covering their suppliers. (For more information on IECQ ECMP, see page 6.)
- **HSPM approval** refers to the IECQ Hazardous Substances Process Management (HSPM) program, a technically based management systems approach to implementing and maintaining hazardous-substance-free products and production processes. (For more information on IECQ HSPM, see page 6.)

All approvals are an important assurance that, throughout the chain of supply of components, customer requirements will be met in full compliance with IECQ procedures. Every approval granted under IECQ is accompanied by a certificate and references a standard or specification that has been accepted for use in the system.

Further information

For more details on the programs and activites of IECQ, visit www.iecq.org. ■

CONFORMITY ASSESSMENT

IECEx Meets Needs in Hazardous Areas

Safety is essential in in the Ex industry, where concentrated flammable gases, liquids, or combustible dusts may be present. The personnel operating the equipment is at the heart of the security issue: they need total confidence not only that the equipment is safe and reliable, but that they can trust their own skills and those of the people they work with. Standards and conformance can provide that assurance.

The IEC, through its Technical Committee (TC) 31, *Equipment for explosive atmospheres*, and its System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres (IECEx), offers the tools needed for safety and reliability. The IEC 60079 series of standards covers elements that must be considered when working in an Ex environment.

IECEx provides assessment and certification of equipment, repair and overhaul facilities, and personnel skills for the Ex industry. The recently introduced IECEx Certification of Personnel Competencies Scheme should prove to be very successful in meeting industry needs. As a global certification system that responds to the needs of a global industry sector, IECEx guarantees the highest possible levels of safety for anyone working in explosive atmospheres.

The recent formal endorsement by the United Nations of IECEx as the best practice model for verification of compliance with International Standards is testament to the respect gained by IECEx in serving the needs of both government and industry for testing and certification in the Ex sector. ■

LATEST FROM THE IEC

TC 108 Takes a New Approach to Product Safety

The narrowing distinction between information technology at home and professional entertainment products has created a need to harmonize related safety requirements. In addition, these requirements need to keep up with the constant advancements in technology. This rapid development has changed the way the IEC looks at safety standards for these products.

From reactive to proactive

In the past, an IEC standard was typically prescriptive, describing specific constructions. The standard would indicate, for example, the exact size for a ventilation opening in a product to comply with safety requirements. Today, such guidelines can prove limiting to new product designs and may become obsolete when technology evolves. Technical Committee (TC) 108, *Safety of electronic equipment within the field of audio/video, information technology and communication technology*, has addressed this problem by moving from a product-driven safety analysis to a systemic identification and analysis of hazards.

Using this approach, commonly referred to as hazard-based safety engineering (HBSE), TC 108 developed IEC 62368-1, *Audio/video, information and communication technology equipment - Part 1: Safety requirements*. This standard clearly states the risk being addressed and the principles for compliance. To the extent practicable, compliance statements are performance-based; to minimize testing, acceptable constructions are also provided for a designer's use, if they so choose.

The differences in this type of standard can be illustrated by comparing it to the approach in a standard such as IEC 60065, *Audio, video and similar electronic apparatus - Safety requirements,* which is incident-based and product-specific. IEC 62368-1 is technology-independent and based on performance as opposed to construction. The former takes a proactive approach, while the latter is reactive.

Being technology-independent, IEC 62368-1 is based on sound engineering principles. It is meant to be used by engineers who designed the product and evaluated its safety requirements, as well as by first, second, or third parties assessing conformance of products.

Rich Pescatore of TC 108 (see page 1) further explained: "From now on, the designer, when going through the engineering and safety analysis of a product, will understand what is needed to make that product safe. He will no longer be bound by specific required constructions. Instead, he will understand the hazard being addressed and the criteria for mitigating the hazard. This will give him tremendous design freedom."

Long-term benefits

The hope with this new approach is that ten years from now, a design engineer will understand the objective of a given safety guideline. Ideally, a new separate standard will not have to be developed every time the technology changes in the market.

IEC 62368-1 has a large role to play in conformity assessment, as well. Seventy percent of all IEC System of Conformity Testing and Certification for Electrotechnical Equipment and Components (IECEE) certificates issued concern safety in the three major industries under the scope of IEC 62368-1: communication technology, information technology, and consumer electronics.

Further information

For more details on the programs and activites of IEC TC108, click here. ■

IEC President and LARC Regional Manager Visit Mexico

In December 2009 IEC President Jacques Régis and Amaury Santos, regional manager of the Latin America Regional Centre (IEC-LARC), traveled to Mexico to meet with government authorities, industry leaders, the Mexican National Committee (NC) of the IEC, and Consejo Mexicano de Normalización y Evaluación de la Conformidad (COMENOR), the Mexican Board of Standardization and Conformity Assessment. Mr. Régis and Mr. Santos attended a number of meetings for discussion of high-level issues for the Latin American region.

Mitigating climate change

The visit opened with a seminar on tackling climate change through standardization, held by the Dirección General de Normas (DGN), the Mexican standardization body, which is a department of the Mexican Ministry of Economy. In his address Mr. Régis told attendees what the IEC has been doing through standardization to address global warming.

"The challenge for electrical energy efficiency will be particularly demanding in the coming years," Mr. Régis said. "Energy consumption will double by the year 2050. To complicate things further, in that same time span we need to reduce our carbon emissions by 50 percent. That means we have to be four times as efficient. We need to develop best practices to safeguard the environment and better use the world's finite resources – in short, we must learn to do more with less.

"One of the ways of addressing climate change is to increase the share of renewable energy in our power production," he continued. "The IEC has been setting down the standardization needs to help adopt and establish these promising new technologies for some time. Renewable energy represents the future in power generation. The issue remains, though, of how to integrate them into existing networks. Many of the electrical networks now in place were constructed many years ago and were not designed to connect intermittently available sources of power. For this, smart grids need to become smarter. Much IEC work is also focusing on upgrading existing technologies to increase their energy efficiency. Industry uses 50 percent of all electrical energy produced in the world. This could easily be halved by developing more efficient motors and systems. We can achieve many improvements today using existing technology. IEC International Standards form the foundation for present and future electrical energy efficiency."

Sowing the seeds of standardization

After the conference, Francisco Ramos, president of the Mexican NC, explained to the IEC officers how the Mexican system of standardization and conformity assessment is managed, and how national standards are adopted and harmonized with International Standards. Mexico, he said, is able to count on full support from its National Electrotechnical Committee, which helps all stakeholders collaborate within the structure of IEC to create a global system of International Standardization, avoiding technical barriers to trade.

IEC President Jacques Régis

Broadening awareness

A Memorandum of Understanding (MoU) exists between the DGN and two of the most important institutions of higher education in Mexico: the National Autonomous University of Mexico (UNAM) and the National Polytechnic Institute (IPN). Ingrid Maciel, secretary of the Mexican NC, explained that the purpose of the MoU was to encourage the institutions to participate in standardization processes and cover them in their curricula, thus sowing the seeds of standardization in the minds of future generations of experts.

Collaborating with industry

Mr. Régis and Mr. Santos attended a meeting at the National Chamber of Electrical Manufactures of Mexico (CANAME) with national representatives of Schneider, Siemens, Philips, and Sony. These major global companies participate in mirror committees of the Mexican NC, and they reiterated their commitment to strengthen Mexico's participation in IEC standardization work.

Mr. Régis and Mr. Santos were the guests of honor at the Mexican NC's December meeting, where they learned more about the NC's organizational structure and standardization work undertaken during 2009.

To conclude the visit, Mr. Santos attended an event organized by the Confederation of Industrial Chambers of Mexico (CONCAMIN) on the theme of "Global Aspects of International Standardization and Conformity Assessment." Mr. Santos emphasized the benefit of strategic use of International Standards for small and medium enterprises (SMEs) and for all those involved in the standardization process.

Further information

To find out more about the activities of the IEC-LARC, click here. ■

LATEST FROM THE IEC

The IEC Welcomes Chile as Full Member and Georgia and Jordan as Associate Members

The application from Chile for admission as a full member of the IEC was approved by the IEC National Committees unanimously in February 2010, giving the Chilean National Committee (NC) full membership in the IEC. Full member countries have the right to participate in all IEC standardization activities, including the right to vote on all technical and management matters. They also have access to all IEC International Standards and documents.

Also approved in February were Georgia and Jordan as Associate Members of the IEC. Both had been participants in the IEC Affiliate Country Programme, joining in 2002 and 2001 respectively. Associate Members may access and comment on all IEC technical documents at any stage. During a General Meeting they may observe any Technical Committee (TC) or Subcommittee (SC), Council, or Standardization Management Board (SMB) meeting. On request to the General Secretary, they may be involved in up to four TCs or SCs as Participating Members with the right to vote on technical work produced.

Chile

The Chilean National Committee, CORNELEC, will be headed up by President Victor C. Ballivian and Secretary Claudia Cerda. The committee plans to participate in the following IEC's technical committees and subcommittees as an Observer (O)-member:

- TC 64, *Electrical installations and protection against electric shock*
- SC 61C, *Household appliances for refrigeration*
- SC 61D, *Appliances for air-conditioning for household and similar purposes*

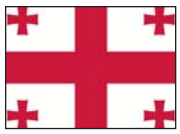
Chile has a gross domestic product (GDP) of $244.3 billion. Electricity production is at 60.6 billion kilowatt-hours (kWh), with

Santiago, Chile

consumption coming in at around 57.29 billion kWh. Imports are divided between petroleum and petroleum products, chemicals, electrical and telecommunications equipment, industrial machinery, vehicles and natural gas. Regarding imports, Chile's partners are the US 19.1%, China 11.9%, Brazil 9.2%, Argentina 8.8%, South Korea 5.5%, Japan 4.6% (2008 est.).

Sound economic policies, maintained consistently since the 1980s, have contributed to steady growth and reduced poverty, and have helped secure the country's commitment to democratic and representative government.

Georgia



The IEC National Committee of Georgia Secretariat is held by the Agency of Standards, Technical Regulations and Metrology of Georgia (GEOSTM). The NC's mission is to participate in the development of IEC International Standards for the benefit of Georgian industry and provide a framework for supporting Georgian interests in international and regional electrotechnical standardization bodies.

In 2006, as a result of its participation in the IEC Affiliate Country Programme, Georgia received over 180 International Standards, and in 2009 established a national electrotechnical committee (NEC). As a Member of the IEC, the Georgian NC has expressed particular interest in solar and wind energy and wishes to participate as an O-member in these fields.

Georgia's main economic activities include mining (manganese and copper) and manufacturing. Although the country imports nearly all its required supplies of natural gas and oil products, it has sizeable hydropower capacity. In 2007, Georgia produced an estimated 8,17 billion kWh of electricity against consumption of 6,902 billion kWh.

Jordan

The Secretariat of the Jordanian NC is held by the Jordan Institution for Standards and Metrology (JISM) and is made up of a balanced mix of representatives from power generation and distribution bodies, manufacturers, research and development establishments, testing laboratories, academia, consumer association, and various governmental bodies concerned with electrical and electronic applications.

Jordan also benefited from the IEC Affiliate Country Programme, adopting International Standards for use at a national level in 2005 and then forming its NEC in 2007. In 2009 Jordan was one of the first Affiliate Countries to be upgraded to Affiliate Plus status.

In becoming a Member of the IEC, Jordan aims to benefit its citizens both socially and economically, ensuring health and safety while protecting the environment. It now plans to participate with voting rights in areas such as lighting, power supply, and household appliances. At the same time, Jordan expects to raise the quality of local products and competitiveness by adopting the appropriate IEC International Standards at a national level.

One of the smaller economies of the Middle East, roughly 30% of Jordan's GDP is generated by manufacturing. Its electricity production in 2007 was estimated 12.21 billion kWh, with consumption at 10.4 billion kWh. The country is currently exploring the possibilities of nuclear power, as its natural energy resources are limited.

The USNC is pleased to welcome Chile, Georgia, and Jordan to the IEC. ■

Flat Panel Devices Have a Bright Future

by Jeanne Erdmann, originally published in IEC Tech

Flat panel displays are just about everywhere these days. From computer monitors, television screens, and navigations systems, to sporting event displays and billboards, they keep getting bigger, brighter, and flatter. In fact, the most recognizable intersection in the world now sports a larger-than-life light-emitting diode (LED) display. Toshiba International Corporation's LED Display Group recently installed a massive full-color, high-resolution video system in New York City's Times Square. The new screen, which covers a surface of over 80 meters, uses Toshiba's Technovirtual technology, which creates virtual pixels by sharing LEDs with adjacent ones.

Despite the sluggish world economy, the market for LEDs seems as bright as the diodes themselves. Production of liquid crystal display (LCD) televisions, has been increasing year by year, reaching 300 million sets with sales of $100 billion projected for 2010. The number of plasma display sets sold each year has also been increasing. Market research by Strategies Unlimited anticipates a growth for LEDs that could reach $14.9 billion in 2013.

"There are many other emerging display technologies, including organic LEDs, 3-D displays, electronic paper displays, and flexible displays," said Shigeo Mikoshiba, chair of IEC Technical Committee (TC) 110, *Flat panel display devices*. Such a universal market calls for standards that address all aspects of flat-panel display (FPD) devices, terms and definitions, measuring methods, and more. "Under these conditions, TC 110 is urged to make related standards as quickly as possible to further the industrialization of the FPDs," said Mr. Mikoshiba.

From optoelectronics to flat panels

The IEC has been working since 1998 to standardize LEDs. A plan for standardization of semiconductor devices began under Subcommittee (SC) 47C during the 1998 General Meeting in Houston.

By 2002 worldwide FPD revenue had grown to $30 billion, exceeding that of cathode ray tube (CRT), at $26 billion. The title of SC 47C was changed in 2003 from "Optoelectronics, Display and Imaging Devices" to "Flat Panel Display Devices" so that the SC could focus on standards development for FPDs such as LCDs and plasma display panels (PDPs). At that point, SC 47C encompassed standardization work in organic light-emitting diode (OLED) display as an emerging technology in FPDs. With technological advancement and market growth in FPDs, SC 47C was reborn as TC 110, following Standardization Management Board (SMB) approval in June 2003.

TC 110 began writing standards for backlight units (BLUs) for advanced OLEDs, for 3-D, e-paper, and flexible displays in 2008. Some of the earlier LCD and PDP basic standards have entered into their second maintenance cycles.

Secretary of TC 110 Hideo Iwama of International Display Technology Co. Ltd., a Sony subsidiary, said that the differences between the past and present are reflected in the technologies themselves and the countries where the technologies are manufactured. From 1998 to 2003, the major technologies were LCD and PDP in personal computers and monitors. During those years Japan manufactured 80 percent of the products using that technology. Over the subsequent five years, LCD and PDP replaced CRT in televisions, and OLED and LCD found a home in mobile phones and car navigation systems. South Korea and Taiwan also emerged as manufacturers, sharing the market with Japan. Now, BLU using LED is replacing cold cathode fluorescent lamps (CCFLs). TVs are larger, and displays are 3-D. And manufacturing is shifting to mainland China.

The major players for writing TC 110 standards remain Japan, South Korea, and China. In 2009 TC 110 issued seven International Standards. Presently, sixteen projects are progressing in various stages. Besides the IEC, the standardization organizations that concern themselves with FPD devices include the International Organization for Standardization (ISO), the Semiconductor Equipment and Materials Institute (SEMI), the Video Electronics Standards Association (VESA) and the International Committee for Display Metrology (ICDM).

Toshiba International Corporation's LED Display in New York's Times Square

"TC 110 is exchanging information with these organizations," said Mr. Mikoshiba. "Manufacturers of display devices in, for example, Japan, Korea, and China are requiring the related standards urgently. Therefore, timeliness of making the standards is one of the most essential factors."

Standards on the horizon

Two critical standards that will soon enter the Final Draft International Standard (FDIS) approval stage are IEC 61747-5-2, *Liquid crystal display devices - Part 5-2: Environmental, endurance and mechanical test methods - Visual Inspection of Active Matrix Colour Liquid Crystal Display Modules*, and IEC 61747-6-2, *Liquid crystal display devices - Part 6-2: Measuring methods for liquid crystal display modules - Reflective type*. New

LATEST FROM THE IEC

Flat Panel Devices Have a Bright Future (continued)

technologies such as electronic paper displays using non-emissive technology follow the latter standard's measuring method.

Standards are relevant to both LED users and manufacturers. "Generally, standards provide information and communication tools," said Mr. Iwama. "For example, functional specifications between customers and manufacturers use and refer to terms and functional characteristics defined in the standards to specify and compare display functions, which avoids confusion and provides correct mutual understanding of the products. Thus, TC 110 has been focusing on the standardization for terms and definitions, and measuring methods for the functional characteristics.

"From TC 110's standard uniqueness points, there is difficulty in describing display functions and qualities such as flicker, cross-talk, moving picture quality, etc., since these are perceptions to human eyes. However, TC 110 has been trying to specify this vague display quality, which should be most helpful to customers and end users."

A flexible technology

The 2010 International Consumer Electronics Show (CES) held in January in Las Vegas shows how adaptable LEDs can be. Examples at the show included indoor/outdoor cameras for home security and for cars, on which they can detect and record impact points for accident recording. The Chicago-based company FLEx Lighting LLC demonstrated a backlit unit for LCD TVs that couples LEDs to a film light guide that is only .02 inch thick. In the entertainment area, the display industry is now marketing various 3-D displays. This trend is helped by the recent release of 3-D movies and games.

At the same time, all industrial sectors are mindful of saving trees by using less paper. Such efforts are helped by the introduction of the e-paper display. "The e-paper device becomes very popular especially in the countries which have good infrastructure of the electronic book contents distribution already established," said Tatsuya Miyazaki of Toshiba Mobile Display Co., Ltd., assistant secretary of TC 110.

For applications that need a more vivid display, OLED looks to be the next generation display device that may replace the LCD or PDP. The biggest advantage of OLED is that it involves self-emitting lights with an absence of light for black. That provides very good visibility and contrast, Mr. Miyazaki explained.

LED BLU is also a key technology that will advance the performance of LCD by achieving a much higher contrast ratio, better color reproducibility, and much lower power consumption. TVs adopting LED BLU have already lined up in the marketplace with major suppliers in 2009, and will be explosively increasing in 2010, according to Junichi Kinoshita of Harison Toshiba Lighting Corporation.

This evolution will continue to keep TC 110 quite busy in the coming years. "By 2015, the share of the LED-LCD TV set will be more than 60 percent in 2015, replacing the conventional LCD TV set using CCFL BLU," said Dr. Kinoshita. "The standardization of LED BLU in a timely manner is therefore indispensable for coping with such an impact of LED technology." ■

USNC NEWS

ANSI Site Licenses Support USNC

To obtain the greatest value and convenience for your organization when buying IEC standards, USNC members should consider purchasing a site license from the American National Standards Institute (ANSI). ANSI site licenses enable specific standards or collections of standards to be shared within a network. They provide real-time access to standards data and offer automatic notication of updates and revisions to meet crucial business needs and give an organization a competitive edge. And the revenue ANSI receives directly supports the activities and initiatives of the USNC.

The USNC/IEC is a totally integrated committee of ANSI. As such, the Institute provides administrative support to the USNC and its nearly 1,400 participants. ANSI also provides the fiduciary framework by which the USNC's financial obligations are met, including the payment of annual dues to IEC. And since ANSI is a non-profit organization, the revenue earned from your purchase helps to support the programs and services offered to USNC members.

When you purchase a site license from ANSI you are making a commitment to bolster U.S. leadership at the IEC table – and gaining the benefits of easy accessibility, total customization, and affordable pricing for your organization's standards needs.

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USNC NEWS

Last Chance! USNC Accepting Nominations for IEC Young Professionals 2010 Workshop through April 30

A month remains to submit nominations to the USNC for participants in the first ever IEC Young Professionals 2010 Workshop. The workshop, scheduled in conjunction with the IEC 2010 General Meeting in Seattle, will bring together professionals from around the world who are at the start of their careers in electrotechnical standardization and conformance.

To be held on October 13–15, 2010, the IEC Young Professionals Workshop will be attended by engineers and managers selected by IEC National Committees. Participants will attend a dedicated workshop alongside recipients from other nations, where they will learn more about the IEC, standardization strategies, and conformity assessment. They will also receive an invitation to attend the technical meetings where standards are developed, will have an opportunity to observe a meeting of the IEC Standardization Management Board, the guidance of a mentor, a visit to local industry, and much more.

Recipients will be financially supported for their travel and up to three nights of accommodation by both the U.S. National Committee and the IEC.

U.S. stakeholders are encouraged to nominate young professionals who work for industry, the government, academia, consumer organizations, or any entity within the U.S. voluntary standards and conformity assessment community that uses, benefits from, or contributes to the IEC's work in electrotechnical standardization and conformance to be one of three U.S. representatives at the workshop through the USNC's Young Professionals Competition. Candidates should hold a role that involves them with standardization or conformance from a technical or managerial perspective within their organization. This program is targeted towards individuals who are in the first 10 to 15 years of their professional career, post university.

Nominations must be submitted electronically to Charlie Zegers, general secretary of the USNC (czegers@ansi.org) by April 30, 2010. Click here to download the nomination form.

The selection process will be primarily based on the nominee's demonstrated leadership and dedication within standardization and conformity assessment activities, vision of the strategic or commercial impact of standards and conformance, and significant accomplishments in his or her chosen field of activity. Candidates will be assessed by a selection panel comprised of USNC Officers, standing committee chairs, and a pool of USNC Honorary Life Members. The three winners will be notified in July 2010.

Further information

For more about the Young Professionals Workshop, click here. To download the nomination form, click here. Completed forms should be emailed to czegers@ansi.org. ■

GO AHEAD, GET AHEAD

IEC YOUNG PROFESSIONALS WORKSHOP 2010

SAVE THE DATES

Save the Dates for Upcoming Events of Interest

MAY 2010

TMC/Council Meeting
Tuesday–Wednesday,
May 11–12, 2010
Washington, DC

Conformity Assessment Policy Coordinating Committee (CAPCC) Meeting
Tuesday, May 11, 2010
Washington, DC (following TMC meeting)

JUNE 2010

Conformity Assesment Board (CAB)
Monday, June 7, 2010
Geneva, Switzerland

Standardization Management Board (SMB)
Tuesday, June 8, 2010
Geneva, Switzerland

SEPTEMBER 2010

TMC/Council Meeting
Wednesday–Thursday, September 8–9, 2010
UL Office, Research Triangle Park, NC

ANSI World Standards Week
Monday–Thursday, September 21–24, 2010
Arlington, VA

OCTOBER 2010

74th IEC General Meeting
Wednesday–Friday, October 6–15, 2010
Seattle, WA

October 11	**Standardization Management Board (SMB)**
October 12	**Conformity Assessment Board (CAB)**
October 14	**Council Board (CB)**
October 15	**Council**

IEC Young Professionals Workshop
Wednesday–Friday, October 13–15, 2010
Seattle, WA

For a complete schedule of upcoming meetings, or for more information on any of the events listed above, visit www.ansi.org/calendar. Enter "USNC" or "IEC" in the key word search field to narrow the list of results.

IEC 2010 General Meeting in Seattle

The United States is hosting the General Meeting of the International Electrotechnical Commission for only the sixth time since 1904. The event will be held in Seattle, Washington, during the period of October 6–15, 2010. More than 2,400 of the world's foremost electrotechnical experts are expected to attend, making it the largest GM in IEC history. More than 90 IEC Technical Committees and Subcommittees have been invited to the event.

Sponsorship opportunities are still available for **IEC 2010**. To learn more, visit www.ansi.org/usnc.

General Sponsors by Category as of March 2010

The USNC/IEC gratefully acknowledges the *57* General Sponsors that have already stepped forward to commit financial resources in support of IEC 2010:

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Thanks are also due to the 78 Technical Sponsors that have committed their support to specific Technical Committee and Subcommittee meetings during the 2010 General Meeting in Seattle.

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ABOUT THIS PUBLICATION

The USNC *News and Notes* newsletter is distributed to the constituency of the United States National Committee (USNC) of the International Electrotechnical Commission (IEC). Its purpose is to provide news, information, and updates on Technical Committee and Sub-committee activities, among other items that may be of interest to members of the electrotechnical community.

HOW TO CONTRIBUTE

Submit proposed news items to Tony Zertuche, USNC/IEC Deputy General Secretary, American National Standards Institute. Tel: 212.642.4961; tzertuche@ansi.org

Upcoming Issues of News & Notes – 2010

Quarter II: Lighting and Lamps

Quarter III: The Importance of Active Participation – "If you're not on the dance floor, you don't get to dance"

Quarter IV: System Standardization: Networking to Benefit Industry, Government, and Society