

**IEC ACTIVITIES IN DEVELOPING COUNTRIES
JUNE – NOVEMBER 2009**

The following information was provided by the IEC (International Electrotechnical Commission) at the TBT Committee meeting of 5-6 November 2009.

1. This report to the WTO Technical Barriers to Trade Committee highlights the activities of the IEC, its Members and Affiliates, and Regional Centres, related to increasing the participation of developing countries in IEC International Standardization and Conformity Assessment activities.

2. The IEC is the world leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies – collectively known as "electrotechnology". The IEC also administers three global conformity assessment systems, IECEE (<http://iecee.org>), IECEx (www.iecex.com) and IECQ (www.iecq.org), for testing, certification and approval of equipment, systems and components to its International Standards.

I. ELECTRIFICATION OF AFRICA

3. IEC attended the 2009 PIESA-IERE forum (www.piesa.com/news/forum2009) in Mombasa, Kenya, 14-18 September 2009. The Power Institute for East and Southern Africa (PIESA) is a voluntary electric power utility association that aims to improve electrification in the region through the sharing of information, research, technology and experiences. PIESA is a member of the International Electric Research Exchange (IERE). This forum served as an interactive platform for PIESA members, other African electricity utilities and agencies responsible for electrification, together with IERE members, international experts and invited guests to discuss technical issues, primarily focussing on using appropriate technologies for accelerating and improving access to electricity in the region.

4. IEC presented its series of Recommendations for small renewable energy and hybrid systems for rural electrification (IEC 62257). IEC's participation paved the way for the collaboration agreement signed during the 73rd IEC General Meeting, between the General Secretary of the IEC and the President of the African Electrotechnical Standardization Commission (AFSEC) (www.afsec-africa.org). AFSEC is a subsidiary body of the African Energy Commission, (<http://afrec.mem-algeria.org/en/index.htm>) launched at the African Union conference of ministers in charge of energy held in February 2008, Algiers, Algeria.

II. INTERNATIONAL WORKSHOP ON FUEL CELL SYSTEMS IN SEOUL

5. Some 30 experts from industry and science met for a workshop on fuel cells on 13-15 June 2009 at the invitation of the IEC and Seoul National University School of Mechanical and Aerospace Engineering (http://eng.snu.ac.kr/english/departments/dept_aerospace.php). The main topics were the

latest research and standardization developments on fuel cells. Fuel cells have been identified as a promising solution in answer to the world's increasing demand for energy. In the face of tremendous global climate change, environmental constraints, and energy demand, fuel cells have been re-identified as offering great potential, and therefore research activities have been strengthened in the past decade. However, as fuel cells gain importance in addressing global energy requirements, not only research but also marketability, safety, and sustainability of fuel cells are increasingly becoming the main challenges. In this light, it is important to bring together academia and standardization experts from industry. (More in the September 2009 e-tech www.iec.ch/online_news/etech/arch_2009/etech_0709/tc_1.htm).

III. IEC WORKSHOP FOR INDUSTRIALIZING COUNTRIES ON ELECTRICAL SAFETY IN EX ENVIRONMENT

6. During its 73rd General Meeting in Tel Aviv, Israel, the IEC held a workshop on safe use of electrical energy in mining and in the chemical, oil and gas industries. IEC Affiliate Leader, Carlos Rodríguez, and IEC Affiliate Coordinator for Africa, Evah Oduor, participated in the workshop animated by IECEx experts (www.iecex.com). IECEx is the IEC Conformity Assessment System for Certification to Standards relating to Equipment for Use in Explosive Atmosphere. The objective of the System is to facilitate international trade in equipment and services for use in explosive atmospheres, while maintaining the required level of safety. With industrialization comes the need to use technology and automation in areas where the risk of explosion exists. Some 40 participants from developing and newly industrialized countries learnt how IEC provides both International Standards and IECEx Conformity Assessment as the platform for promoting safety.

7. It was the occasion to present IECEx new Certification of Personnel Competencies Scheme, the first international scheme for the certification of persons working in explosive environments, a challenge for many industrializing countries - IEC members and Affiliate Countries. (More in the September 2009 e-tech and November 2009 e-tech - www.iec.ch/online_news/etech/arch_2009/etech_0909/ca_2.htm).

IV. IEC AFFILIATE FORUM MET IN TEL AVIV

8. The Affiliate Forum met on 20 October 2009 during IEC General Meeting. It brought together some 20 delegates representing 14 developing countries: Affiliate delegates from Cameroon, Congo, Costa Rica, Côte d'Ivoire, Democratic Rep of Congo, Ethiopia, Ghana, Namibia, Peru, Swaziland, Tanzania, Uruguay as well the Secretary of the IEC National Committee of South Africa, Jo-Anne Byng, and Evah Oduor from Kenya who is the IEC Affiliate Coordinator for Africa.

9. Carlos Rodríguez, Director of INTECO (Costa Rican standards institution) has been leading the IEC Affiliate Country Programme since 2006. During the forum he shared with the Affiliate delegations the report he submits every year on the IEC Affiliate Country Programme to the IEC management boards.

10. This year he mentioned a continuous increase in adoption of IEC International Standards by Affiliate Countries, as well as in the number of countries involved in the Programme. As some countries are already using the Programme to its full extend but are still not in a position to apply for IEC membership, he explained that he had formally asked IEC to examine their situation. As a result, the Affiliate Plus status was created and he was happy to report that seven countries had already been upgraded: Ghana, Guyana, Jordan, Lao PDR, Lebanon, Uganda and recently Zambia.

11. After the forum Evah Oduor, IEC Affiliate Coordinator for Africa, convened a special session with African delegates with the participation of the President of AFSEC, Claude Koutoua from Côte d'Ivoire. She clarified her coordinator role to assist them in using the Programme and mentioned her

first missions as IEC Affiliate Coordinator for Africa to the general assemblies of SADCSTAN – the Southern African Development Community Cooperation in Standardization (Botswana in April) and UPDEA – the Union of producers, transporters and distributors of electric power in Africa (Ethiopia in November). She reported that over 3000 IEC Standards were used in 25 African countries and that over 1200 had been adopted by 12 Affiliate countries in Africa. She urged the countries represented in the Forum to go ahead and establish their national electrotechnical committees to have the infrastructure which will allow them to get involved in IEC International Standardization work.

12. Simultaneously the representatives from Peru and Uruguay as well as the Affiliate Leader from Costa Rica met with IEC Regional Manager for Latin America to explore the ways they could improve their participation in IEC International Standardization activities in their part of the world. (More in the November 2009 e-tech).

V. IEC AFFILIATE PLUS STATUS FOR DEVELOPING COUNTRIES

13. Affiliate countries that have already adopted at least 50 IEC International Standards as national standards and established a national electrotechnical committee representing both their public and private sectors will be granted a new status. The Affiliate Plus status offers developing countries new benefits, e.g. an increase in the number of free copies of IEC International Standards they receive for adoption (400 instead of 200) and, on a case by case basis, the possibility to have a mentor amongst IEC members. (More in the September 2009 e-tech www.iec.ch/online_news/etech/arch_2009/etech_0909/family_2.htm)

VI. IECEE INTRODUCES HAZARDOUS SUBSTANCES TESTING SERVICES

14. In the past few years, restricting or eliminating the use of hazardous substances in electrical and electronic products has become a must for manufacturers who want to stay competitive. Moreover, in the wake of the 2006 EU (European Union) RoHS (Restriction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment http://ec.europa.eu/environment/waste/weee/index_en.htm) Directives for electrical and electronic equipment, many countries are now introducing legislation. Compliance of products to national or regional legislation is therefore essential for manufacturers. This is where the IECEE (www.iecee.org), the IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components, comes into play as requirements for hazardous substances vary in different regions and countries around the world. Laboratories also use different test methods that provide varying test results. Market surveillance on the use of HS (Hazardous Substances) is intensifying. All this means that there is a major need for reliable tools to verify and demonstrate the level of HS in electrical products. (More in the September 2009 e-tech www.iec.ch/online_news/etech/arch_2009/etech_0909/ca_2.htm).

VII. IECEX CERTIFICATION OF PERSONNEL COMPETENCIES SCHEME

15. IECEX (www.iecex.com), the IEC System for Certification to Standards relating to Equipment for Use in Explosive Atmospheres, is making rapid progress in setting up its Certification of Personnel Competencies Scheme, which was presented at the workshop for industrializing countries during 73rd IEC General Meeting.

16. Certification programmes for personnel already exist in industry, in particular in the service sectors. Healthcare personnel, safety professionals and financial planners, to name but a few, are regularly submitted to independent assessments of education, training, experience, knowledge and skills to demonstrate their professional abilities and be granted certification.

17. IECEx WG (Working Group) 12, which is in charge of setting up the new Scheme, met in Singapore last June to refine the series of rules and procedures documents developed earlier this year at the Frankfurt meeting (more in the March 2009 e-tech (www.iec.ch/online_news/etech/arch_2009/etech_0309/ca_2.htm)). In addition to the main document establishing the Scheme, IECEx 05, *IECEx Scheme for Certification of Personnel Competencies for Explosive Atmospheres – Rules of Procedure*, several Operational Documents were finalized. They cover the assessment qualification process of certifiers to issue IECEx Certificate of Personnel Competencies (CoPC), the standard procedures to be adopted by IECEx certifiers and the detailed list of "Competency Outcomes" for the 10 Competency Units that make up the IECEx Certification of Personnel Competencies Scheme. (More in September 2009 e-tech (www.iec.ch/online_news/etech/arch_2009/etech_0909/ca_2.htm)).

VIII. IEC REGIONAL MANAGER FOR LATIN AMERICA ATTENDED KEY ELECTRIC AND ELECTRONIC INDUSTRIES EVENT IN CHILE

18. In late August 2009, the IEC participated in the 13th Annual Dinner of the AIE (www.aie.cl/) (Asociación de la Industria Eléctrica-Electrónica), the Electrical and Electronics Industry Association of Chile. This traditional gathering is one of the big business and technology events of the year. Chaired by AIE President Eduardo Cordero, it took place on 20 August 2009, in Chile's capital, Santiago de Chile, and was attended by more than 270 representatives from industry, academia and the media. Amaury Santos, Regional Manager of the IEC-LARC (www.iec.ch/about/rc/iec-larc) (IEC Latin America Regional Centre), in his capacity as representative of Ronnie Amit, General Secretary and CEO of the IEC, spoke of the relevance of IEC International Standards, particularly for Chile. (More in the September 2009 e-tech http://www.iec.ch/online_news/etech/arch_2009/etech_0909/family_1.htm).

IX. IEC SINGAPORE TEAM INCREASES ITS TECHNICAL RESPONSIBILITIES

19. IEC-APRC (IEC Asia-Pacific Regional Centre) welcomed a new technical officer to deal with electric welding (TC 26), industrial electro heating equipment (TC 27), lamps and related equipment (TC 34) and electrical installation for lighting and beaconing of aerodromes (TC 97). With these 4 additional fields, IEC-APRC is now responsible for 27 IEC technical committees. http://www.iec.ch/about/rc/iec-aprc/iec-aprc_techwork.htm (More in the July 2009 e-tech http://www.iec.ch/online_news/etech/arch_2009/etech_0709/family_1.htm).

X. RENEWABLE ENERGY: A STEP TOWARDS SUSTAINABILITY

20. In its keynote address at ISO 32nd General Assembly, in Cape Town, South Africa, IEC President Jacques Régis spoke about electrical energy and the fundamental impact of international standardization. He pointed out the role of technology for a sustainable future and increased energy efficiency both in developed and developing countries. According to the International Energy Agency (IEA) (www.iea.org), approximately half of global energy will be supplied by renewable sources by 2050 which offers hope to 2 000 million "energy poor" because it is easy to implement and is decentralized. IEC President mentioned that, by the end of 2010, 15 % of renewable electricity could be produced by wind power, which could raise to 50 % by 2030, according to the global Energy Watch Group (www.energywatchgroup.org). The market for photovoltaic (PV) power application is expanding rapidly in developed and developing countries because photovoltaics are a reliable and flexible energy source. Moving to solar thermal, he said that it is the most promising new technology involving concentrating solar power plants that produce electricity much in the same way as conventional power stations. He went on to ocean energy, a huge, predictable and still largely untapped source of renewable energy, that involves a number of different technologies and includes energy generation from tides, waves, currents, salinity and thermal gradients. Mentioning hydro power, geothermal, bio and nuclear energy he explained that efforts still need to be made to increase

the awareness among policy makers, industry, academia and end-users of the existence and relevance of the standardization and conformity assessment solutions available to them. Many different IEC technical committees work on international standards for renewable energy: TC 88 (http://www.iec.ch/dyn/www/f?p=102:7:0:::FSP_ORG_ID:1282) on wind turbine, TC 82 (http://www.iec.ch/dyn/www/f?p=102:7:0:::FSP_ORG_ID:1276) on photovoltaics, TC 4 (http://www.iec.ch/dyn/www/f?p=102:7:0:::FSP_ORG_ID:1228) on hydraulic turbines, TC 114 (http://www.iec.ch/dyn/www/f?p=102:7:0:::FSP_ORG_ID:1316) on marine energy without forgetting the IEC Smart Grid portal (<http://www.iec.ch/zone/smartgrid/>) which provides direct access to the many key standards and processes that apply to a Smart Grid, from electrical energy measurement, tariff and load control to lamps, renewable energies and fuel cell technologies.

21. IEC President concluded that, in its effort to support renewable energies to serve the developed and developing world, the IEC was working closely with the International Energy Agency (IEA) and its sister organizations ISO (www.iso.org) and ITU (www.itu.int/en/pages/default.aspx) pointed out to the IEA-IEC-ISO workshop on energy efficiency that was held in March 2009 in Paris, France. (More in the February 2009 e-tech www.iec.ch/online_news/etech/arch_2009/etech_0209/world_1.htm).
