

Annual Report 2009

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Issue 9

Efficiently Providing Electrical Safety

Electrical safety and energy efficiency are not mutually exclusive subjects but often they are discussed as if they were. Virtually every nation in the Americas, and the world, is focused on very tangible objectives to reduce the economic impact of skyrocketing energy costs.

In the electro-technical sector the most visible efforts are focused on reducing energy consumption. Household appliances, lighting, and heating and air-conditioning and refrigeration systems are among the most necessary and highest volume consumers of electricity. Government legislation, regulation, consumer demand and competition all have joined in a revolution in standards and tech-

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nologies to provide great reductions in electrical consumption at the point of use without compromise to performance.

From the President

The increasing presence of unqualified and counterfeit electrical products in the marketplace, including consumer devices and accessories as well as distribution system components, is a real danger to public safety. Product standards provide the basis for distinguishing safe from unsafe products.

National safety regulations have no structure without objective and appropriate standards.

CANENA has proven success in not only reducing the differences between existing standards of well standardized markets in Canada and the United States, it has been an important vehicle for Mexico to rebuild its portfolio of national electro-technical standards. CANENA complements the national electro-technical standards development process in Mexico. I think it is fair to say that Mexico could not have come so far in a relatively short

While nearly everyone foresees the benefits from increasing efforts in reducing energy consumption, sustaining the present momentum will depend largely on the consumer's experience, realization of tangible savings, and continued demand for more and more energy efficient technologies. Advances in the efficiency of power consuming products alone cannot sustain the present momentum.

A safe, reliable and efficient distribution system for electrical power is a key contributor to maximum energy efficiency. In 2002, it was estimated that nearly 10 percent of net generated electricity was lost in transmission and distribution before it ever reached an appli-

cation point; lighting, appliance or other power consuming equipment. It should come as no surprise that the principles addressed in product standards for electrical distribution system components and installation Codes, that provide safe and reliable installations, also minimize losses of energy in its distribution. Electrical safety principles acknowledged worldwide center around protection against heating effects and electrical shock that can result from "non-standard" products and installations. These "non-standard" or "sub-standard" conditions contribute to significant losses in energy and also contribute to suboptimal performance of equipment.

The experience in Mexico is based in an international regulations model that can easily be adapted in countries throughout the region of the Americas. Nations without a system of electro-technical standards are at higher risk from the invasion of unqualified and counterfeit products. Without such structure, these products enter the market unimpeded and the users of the

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products easily find incentive to accept and use them. It's time for all countries to make decisions on electrical safety based on adoption of relevant standards.

CANENA is proud to co-host the "Energy Efficiency and Electrical Safety- Priorities for the Americas" conference in San José, Costa Rica, March 9-11, 2010. The program will feature the lengthy portfolio of harmonized electro-technical standards that are ready for adoption accompanied by an invitation for interested countries to explore engagement in the CANENA process. I hope as many CANENA members as possible will join us in Costa Rica to help support this invitation.

Rafael Yáñez Hoyos



THC Secretaries – Major Players in Harmonization

The unsung heroes of the CANENA harmonization process are its Technical Harmonization Committee (THC) Secretaries. The “right arm” of the committee Chairman, they’re depended upon in many ways to help the committee achieve its objectives.

Technical committee members are rightfully focused on the subject at hand and not all are interested in having intimate knowledge of processes and procedures. It’s imperative however, to the accomplishment of the committee’s objectives that the Chairman and Secretary completely understand the “rules of engagement”. Within CANENA, a THC is given a great deal of autonomy in establishing its membership, operating structure, work programs and program schedules. This includes the responsibility of establishing and independently funding its Secretary.

The work that takes place in a CANENA THC depends on many important interfaces with external processes. Published procedures are continuously evolving in support of the THC efforts and the broader constituencies the resulting harmonized standards intend to serve. CANENA Secretaries keep the THC informed of changes in procedures and contribute to their evolution by providing important feedback as to their effectiveness.

Timing is a critical element to the efficient handling of the output of the THC through the processes of the involved Standards Development Organizations (SDO). And, timely feedback is often needed from the THC as these processes progress. The THC Secretary works directly with the assigned Publication Coordinator, who in turn works with each separate SDO to help maintain the schedule that is agreed upon by the THC at the outset of each work program.

Along with their responsibilities to the Technical Harmonization Committee, each THC Secretary has a responsibility to the CANENA Council through the CANENA Secretary-General. These responsibilities include maintaining their THC directory information, providing the annual committee report of THC activities and to help enforce the Council by-laws with respect to dues paying membership on the THC.

The CANENA Council is deeply indebted to its THC Secretaries for the work they do and owes much of its success to their efforts. THC Secretaries meet annually with the CANENA Secretary-General to exchange best practices, receive training and contribute to the improvement of CANENA processes and procedures.

CANENA Launches Redesigned Website

CANENA on the web at www.CANENA.org was first launched in 1998 as the Council’s principal communication vehicle. It was designed to provide CANENA members and visitors with general information on CANENA membership, bylaws, standardization procedures, and an overview of the activities of the Council. The following year, a rudimentary spreadsheet database was posted providing a listing of active committees and their harmonization work programs. From that point, CANENA.org began to evolve as a program management tool for Council administration and technical committees.

In 2001, in conjunction with the formalization of harmonization procedures between the participating Standards Development Organizations, and the expanding number of technical committees and active work programs, the project database was refined. Each Technical Committee was given its own page that included contact information for the Chair and Secretary, the committee’s scope and the current work programs of the committee. Each work program was linked to a project tracking system known as the “CANENA Corner” hosted by CSA Standards. This standardized tracking format was a real innovation that increased the value of the interactive website.

In 2008 the CANENA Executive Committee decided CANENA.org needed a makeover. Besides needing a refreshed look, the amount of content that has been added and new and

updated internet browsers were straining the site and limiting ease of usability. During 2009, CANENA Secretary General Joel Solis led a task group made up of CANENA members and representatives from ANCE, CSA Standards, and UL. NEMA, the National Electrical Manufacturer’s Association, who has graciously hosted CANENA.org since its original launch, was contracted to consult with the task group and incorporate changes.



The focus of the work was to modernize the look of the entire site so it has a consistent feel and appearance. This required making it easier for users to navigate the site by providing content in a logical and meaningful way for both frequent and new users. A draft site map was developed and the task group met four times to review progress and provide their input. In June the Beta development site was finalized which enabled the final review. The redesigned website was activated on August 7, 2009.

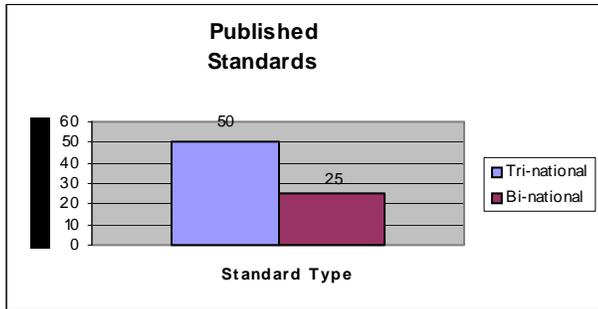
We’re certain both members and visitors will find the all new CANENA.org to be visually pleasing with a feature marquee headline that is planned to change quarterly throughout the year, more bilingual (Spanish-English) content, and easy to use toolbars to access the important features and other content. Congratulations to Joel Solis and the Task Group and to NEMA’s Nick Kurlick on a job well done. Feel free to submit comments and suggestions to joel.solis@nema.org.

Dates to Remember

- ◆ Electrical Safety and Energy Efficiency– Priorities for the Americas Conference– March 9-11, 2010 San José, Costa Rica
- ◆ COPANT General Assembly Meeting – April 27-29, 2010, Mexico City, DF Mexico
- ◆ NFPA World Safety Conference and Exposition – June 6-11, 2010, Las Vegas, NV U.S.A.
- ◆ CSA Annual Conference and Committee Week – June 20-22, 2010, St. Johns, Newfoundland, Canada
- ◆ Standards Engineering Society (SES) Conference – August 15-19, 2010, Boston, MA U.S.A.
- ◆ 74th IEC General Meeting – October 6-15, 2010 Seattle, Washington U.S.A.

CANENA Technical Programs

Despite the impact of the global economy on every facet of our businesses, progress was made in electro-technical standards harmonization during 2009. Two new tri-nationally harmonized standards were published and the number of active THC work programs increased substantially from 30 to 44.



New harmonized standards:

Trinational: [Canada, Mexico, U.S.]: *Fire Pump Controllers* (UL 218/C22.2 No. 263/NMX-J-626-ANCE), published September 2009.

High Voltage Industrial Control Equipment (UL 347/C22.2 No. 253/NMX-J-564/106-ANCE), published November 2009.

Several THCs are exploring work programs with Mexican industry for 2010 to expand their bi-nationally harmonized, Canada, U.S., standards to tri-national.

It is impressive that the total number of electro-technical standards that have been harmonized through the CANENA process now stands at 75. But, did you know that the total portfolio of harmonized North American electro-technical standards actually exceeds 100? Yes, not all harmonization activities are carried out



through CANENA. However, those separate activities have benefited from the evolution of the harmonization procedures and mutual agreements reached between the participating Standards Development Organizations in support of CANENA harmonization priorities.

To view the full portfolio of North American harmonized electro-technical standards, visit:
<http://ulstandardsinonet.ul.com/catalog/stdscatframe.html>

**Thanks to the 2009
CANENA
Sustaining & Supporting
Company and Association Members**



Changes to Standards at the Speed of Technology

In Greek mythology, the man Sisyphus is condemned to an eternity of pushing a boulder uphill and then watching it roll back down again. One would like to think that the effort it takes to write, harmonize and maintain standards is more productive and valuable than was the plight of Sisyphus.



The members of CANENA Technical Harmonization Committees (THC) who have produced more than seventy harmonized electro-technical product standards, certainly pushed some very large boulders uphill. Their achievements were great and celebrated, but for some who considered their work done, the realization that their

role was ongoing, is only now beginning to set in.

Some may have forgotten that even before the advent of standards harmonization there were always cycles of change in separate national standards. Advancements in safety and product technologies demanded that relevant standards be updated. For multinational industries, this involved active participation in multiple standards processes. Today, that demand is certainly no less and for standards that have been harmonized the opportunity exists to effect necessary changes regionally or even internationally through one process. Those who don't realize this have only achieved a minimal benefit

from their hard work of initial harmonization. The CANENA harmonization procedures that have evolved were not only designed to facilitate delivery of the initial harmonized standards, but also to provide for their efficient revision and maintenance. The commitment by the participating Standards Development Organizations (SDO) in each country to maintaining harmonization of the standards is heavily dependent on the active and ongoing participation and responsiveness of each CANENA THC. Active THCs do not let their boulder roll all the way down the hill.

What has changed from the pre-harmonization era is the need to accelerate changes in harmonized standards to accommodate regulation, safety issues and the emergence of new technologies. SDOs are under intense pressure to accommodate change and this places additional responsibilities on CANENA THCs to be both active and responsive. These pressures and increased responsibilities are not the fault of harmonized standards or CANENA. They are a sign of the times.

During 2009, a task force was formed to address the process for dealing with urgent changes in harmonized standards. Led by CANENA member Al Scolnik, NEMA's Vice President of Technical Services, the task force is working to identify ways that urgent changes may be made to a harmonized standard, with the least amount of disruption to the work programs of the affected CANENA THC and others who use the standard. The task force plans to present recommendations to the CANENA Executive Committee for consideration and discussion at its next scheduled meeting in March.

Electrical Installation Codes in the Americas

Hardly anyone would contest that the safest and most standardized electrical distribution systems in the Americas, perhaps in the world, exist in Canada and United States. In large part, this is due to the foundation provided by the national electrical installation Codes in each country that were first established more than three generations ago. The Canadian Electrical Code Part I and the National Electrical Code® (NEC®) in the U.S. are cornerstones for electrical safety in these countries, but also indirectly throughout the region of the Americas.

North American standard products, designed to comply with the installation Codes in Canada and the U.S., form the infrastructure of electrical systems from North to South in the Americas. In recent years, as the economies of even the smallest nations of our region have been developing at an unprecedented pace, officials in those nations have a desire to formalize electrical installation Codes, and many are turning to the well established and maintained North American Codes, at least as starting point. This decision provides a sense of assurance that the adopted Code represents the installed base and present practices.

The Canadian and U.S. Codes have a great deal in common as one might suspect. This can be attributed to many political, commercial and economics based factors. But even more so, the essential electrical safety principles embedded in these legacy Codes are identical, and have been since the start.

This more than anything else, establishes the critical common base. Yes, there do exist differences in some approaches for achieving the desired level of safety. But having this common base of principles, has fostered significant harmonization over the past 10-20 years.

Fundamental Principles

General

- Shock currents
- Excessive heat (burns, fires, other)

Protection against electric shock (contact with live parts)

- Protection against direct contact (enclosure, clearance)
- Protection against indirect contact (grounding, bonding)

Protection against thermal effects

Protection against overcurrent

Protection against fault currents

Protection against overvoltage

The IEC 60364 series of standards embodies the consensus of the European Community with respect to safe electrical installation practice. A detailed comparison of the NEC® and IEC 60364 was commissioned by the National Electrical Manufacturer's Association in 1999. The results of that independent study concluded that there is truly a global consensus on the essential safety principles for electrical installations. This is important common ground for sure and provides confidence that harmonization of the different legacy approaches to achieving safety is possible over time.

Using the CANENA Process to Develop Positions in IEC

The CANENA process brings the subject experts from particular product sectors together for a common purpose: To reduce technical differences in standards and improve efficiency and cost effectiveness of market access.

Initially, the scope of the efforts of CANENA Technical Harmonization Committees (THC) was the national standards of Canada, Mexico and the United States. In the sectors of industrial control gear; air-conditioning and refrigeration; and household appliances, THCs have achieved measurable success in harmonizing regional deviations to the IEC standards that address their scope of products. In the case of the air-conditioning and refrigeration industry sector, there has even been an outreach effort to explore harmonization of North American and South American (AMN-Mercosur) consensus regional deviations to the IEC 60335 series of standards.

Not surprisingly, many of the same subject experts who participate in CANENA THCs are also members of their respective IEC National Committees. It seems so natural that

expanding a THC scope and agenda to share perspectives and positions on active IEC work programs would be mutually beneficial and add value to CANENA membership.

This is not a new concept. A few THCs have actively tapped into this resource and achieved some surprising successes. One such example is THC 23B-1 Electrical Boxes. This THC recently completed a thorough gap analysis between its harmonized regional standard and IEC 60670-1, Boxes and enclosures for electrical accessories for household and similar fixed installations. This analysis resulted in a great number of consensus proposals that were introduced through respective IEC national committees during the recent IEC maintenance cycle. THC23A-62275 Cable Ties has just completed work toward adopting IEC 62275, Cable ties for electrical installations, as a harmonized tri-national standard.

In these challenging economic times, expanding the use of all available resources is critical. CANENA THCs possess many such untapped resources.

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Use and protection of appropriate wiring methods and connections; right-sizing of electrical conductors; secure, low resistance electrical and mechanical connections at terminals and equipment; clearances and insulation; and effective grounding and bonding are just a few of the common elements contributing to both electrical safety and energy efficiency.

The performance, reliability and useful life of any power consuming equipment is directly related to the consistent and efficient delivery of quality power. The efficiency of the power delivery system is integral to the efficiency of the equipment, no matter what energy efficiency rating the equipment may display. It is therefore fair to conclude that the assurance of a long-term sustained momentum in the drive for maximizing efficient energy consumption must include adoption of effective and relevant electrical distribution system component standards and installation Codes.

CANENA Council Business Meeting 1PM—3PM EDT, May 19, 2010 Web Conference

The annual Council Business Meeting, typically held in conjunction with the CANENA Annual General Meeting, will be held in a special web conference hosted by ANCE, on Wednesday, May 19, 2010. A formal meeting announcement, agenda and log-on details will be provided in April. Please arrange your schedule so you are able to participate.