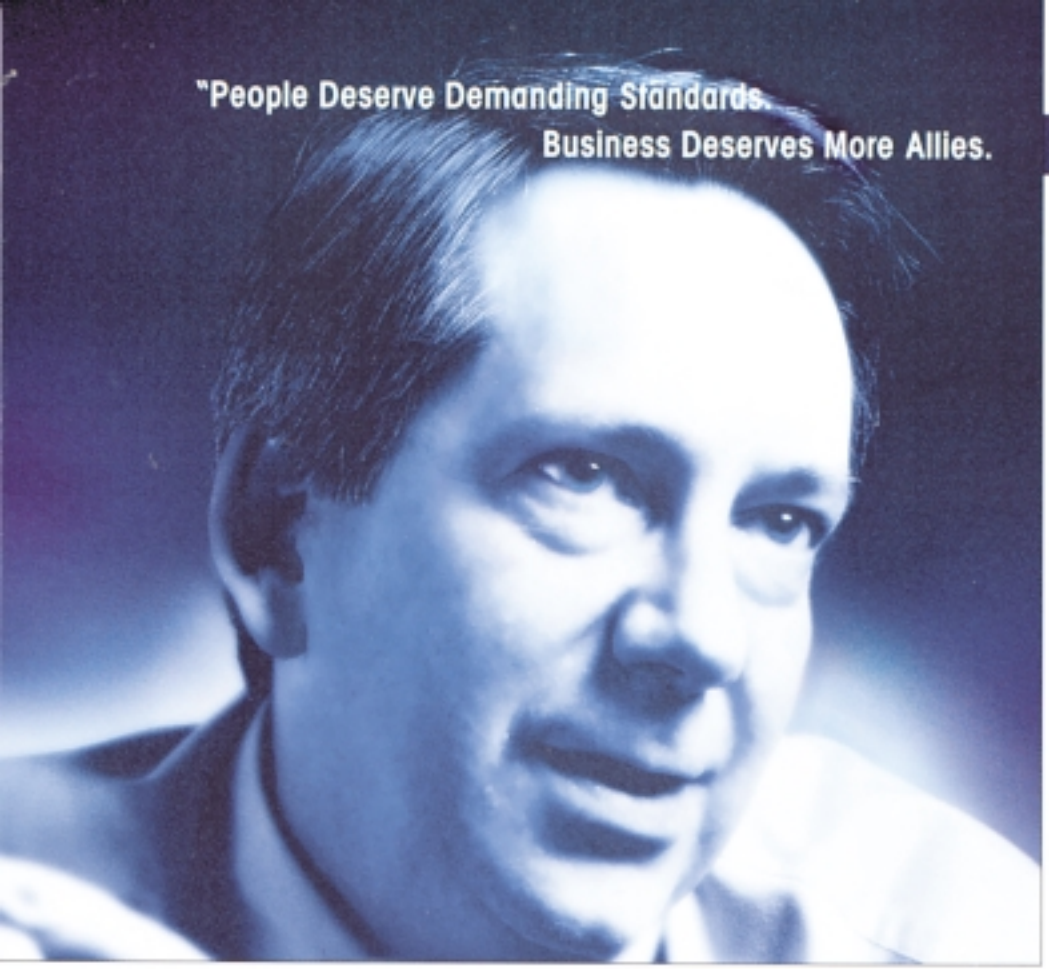
Volume 26 Number 4 July / August 1999

CONSENSUS

Canada's Newsmagazine of Standardization

Standards *for an aging world*



Robert Griffin
President & CEO- CSA International

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In this issue...

ALSO

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Canadian Standards Strategy

The Standards Council of Canada and its Stakeholders Advisory Council have created a draft Canadian Standards Strategy. The document has been posted at SCC.CA for public comment. Everyone interested in standards is invited to review the draft and provide feedback.

News
ISO 9000/ISO 14000

SCC plays key role in TL 9000 activities

Accreditation bodies from the United States and Canada are helping to further the new TL 9000 telecommunications requirements. The Standards Council of Canada and the National Accreditation Program (NAP) in the U.S. have been selected to take part in a pilot registration program for TL 9000. Auditors from either NAP or the Standards Council will witness audits by registrars. Successful registrars will then be able to issue accredited TL 9000 registrations to telecommunications suppliers. The pilot program is expected to run through December with the first TL 9000 registrar accreditations to be announced early next year. NAP is a joint program of the Registrar Accreditation Board (RAB) and the American National Standards Institute (ANSI). TL 9000 is a common set of quality system requirements built upon the ISO 9000 series of quality standards but tailored for suppliers of telecommunications systems, hardware, software and services. For more on TL 9000, please see our March/April 1999 issue. ■

SCC to host international conference

The Standards Council of Canada will host the 1999 plenary meeting of the Pacific Accreditation Cooperation (PAC) from July 24th to 31st in Vancouver, British Columbia. The conference will include a peer evaluator workshop for PAC assessors, working group meetings and a multi-lateral agreement (MLA) signing ceremony for eligible new members. There will also be a discussion regarding extension of the current MLA from accreditation of quality management system registrars to accreditation of product certification organizations and environmental management system registrars. Representatives of Australia and New Zealand, France, Germany, Indonesia, Japan, Korea, Malaysia, the Peoples Republic of China, the Philippines, Singapore, South Africa, Thailand, and the United States will attend the conference. ■

SCC contributes to new quality management guide

The Standards Council of Canada has helped create a new guide that will make it easier for industry and professional associations to develop quality management systems.

Quality Management for Associations: A Practical Guide to ISO 9000 was developed by Industry Canada working in partnership with the Standards Council of Canada and the Department of Foreign Affairs and International Trade. The guide is written in plain language and is specifically designed to help associations set up a quality management system based on the ISO 9000 standard.

The Canadian Society of Association Executives (CSAE) is working in partnership with Industry Canada to promote the publication. "The guide will be a useful tool for many of our members seeking to improve the performance and effectiveness of their associations," explains Wayne Amundson of CSAE. For the federal government, the guide represents an opportunity to promote quality initiatives in important sectors of the Canadian economy.

The guide was based on the experiences of an actual association seeking ISO 9000 registration, says John Banigan, assistant deputy

ISO 9000 – seven steps to freer trade

Standards Council of Canada executive director Peter Clark recently spoke about the trade benefits of the ISO 9000 series during an address to a World Trade Organization (WTO) symposium on conformity assessment procedures.

Mr. Clark's remarks focused on seven key attributes of the series that promote liberalized trade. He indicated that the standards are:

- voluntary and market-driven;
- internationally adopted and applied;
- based on widespread input and feedback from experts and users;
- designed to promote quality and efficiency in a non-discriminatory manner;
- subject to clear national and international channels for input and reform;
- supported by mutual recognition agreements; and
- backed by a confidence chain that includes national standards bodies.

"During the industrial revolution over 100 years ago, quality control meant testing each manufactured product made," Mr. Clark indicated in a paper distributed to symposium participants. "With the advent of mass production, the need for quality control testing was reduced to sampling.

"By standardizing the management process, ISO 9000 registration represents the next stage in the evolution of standardization and quality control. Registered quality management systems have resulted in consistent, error-free output with high reliability, and this means that products need to be tested even less."

The symposium, which took place June 8 and 9, brought together trade and standardization experts from around the world. ■

minister, Industry Canada. "When the Automotive Industries Association of Canada (AIA) invited us to follow their progress, we quickly realized that their experience would be valuable for other associations considering ISO 9000."

Based on that experience and additional advice provided by federal government partners and private sector experts, Industry Canada developed a publication that explains the elements of the ISO standards and gives concrete examples of how they can be applied to the association environment.

The guide presents two options for associations. They can seek registration as an ISO 9000-compliant organization or they can develop a quality management system based on the standard without taking the final step.

A free copy of *Quality Management for Associations: A Practical Guide to ISO 9000* is available from CSAE on the World Wide Web at http://www.associationplace.com/iso or by calling (416) 363-3555. ■

SCC enhances advisory committee structure

The Standards Council of Canada has reorganized its advisory committee structure to better tap into the expertise of its stakeholder groups.

Under the new structure, some 100 people take part in eight key advisory committees and a variety of subcommittees providing advice to the organization's governing Council on standardization issues.

Two advisory committees are established by provision of the *Standards Council of Canada Act* – the Provincial-Territorial Advisory Committee (PTAC) and the Standards Development Organizations Advisory Committee (SDOAC). Two other committees coordinate the Standards Council's involvement in the development of international standards – the Canadian National Committee on the International Organization for Standardization (CNC/ISO) and the Canadian National Committee of the International Electrotechnical Commission (CNC/IEC).

The remaining advisory committees provide advice to the Standards Council on standards, conformity assessment, trade, and consumers and the public interest.

The Standards Council has also revised the standardized terms of reference for the committees. Information on the Standards Council is available at the organization's Web site (www.scc.ca). ■

CSA International

Agreement with Nemko
CSA International has signed an agreement that will provide its customers with enhanced access to markets in Scandinavia and Eastern Europe. The agreement is a memorandum of understanding with Nemko, an independent company that offers testing and certification services for electrical products in Europe. Under the terms of the agreement, CSA International can arrange for testing and certification work on behalf of its customers to be performed by Nemko. The agreement improves access to markets including Poland, Hungary and the Czech republic.

Agreement to facilitate trade with Argentina
CSA International has signed an agreement with the Standards Institute of Argentina (IRAM), allowing CSA to conduct product certification to IEC standards on behalf of IRAM and issue its safety mark. CSA International will now be able to help its clients meet Argentina's mandatory safety requirements for low voltage electrical equipment, which cover most electrical and electronic products, gas-fired appliances and other equipment. ■

Canadian auto dealers driving for quality

Canadian auto dealers are racing to register to ISO 9000, outnumbering their U.S. counterparts by 10 to 1. There are approximately 20 Canadian auto dealers registered to ISO 9000, versus only two in the United States. Canadian dealers are registering their quality management systems to ISO 9000 in part because of a push by Chrysler Canada to implement ISO 9002 in dealerships across the country. However, Chrysler does not account for all of the registered dealers – General Motors, Ford and Mercedes-Benz dealers are also registered, among others. Registration to ISO 9000 provides auto dealers with the potential for continuous quality improvement and gives them a strong marketing tool. For more on ISO 9000 registration by auto dealers, please see our March/April 1999 issue. ■

German requirement passed into law

As of June 1st, workplace equipment with keypads or keyboards will have to meet a new requirement before it can be exported to Germany. The requirement applies to equipment like calculators, computers, telephones, fax machines and photocopiers. Such equipment will now have to meet the IEC standard for resistance of markings and letterings to abrasion caused by fingers and hands, IEC 60068-2-70. The German government is now requiring that all such equipment bear a symbol indicating that it has passed this additional test. ■

Based on a contribution by Herb Patschka, Testing Machines Inc. (Montreal, QC).

News
From around the world

CEAA launches two new programs

The Canadian Environmental Auditing Association (CEAA) has launched a new certification program aimed at providing greater flexibility to the environmental auditing profession in Canada and supporting the application of the ISO 14000 series of standards.

The CEAA is now accepting applications from individuals interested in obtaining certification as EMS Auditors and EMS Lead Auditors. Successful applicants must meet the requirements of the International Organization for Standardization's *Guidelines for environmental auditing - Qualification criteria for environmental auditors* (ISO Guide 14012). Certification requires a combination of formal training, on-the-job experience and audit experience.

The CEAA is also implementing a new Provisional Auditor membership program designed for individuals who have been formally trained but who lack field experience.

The new programs provide alternatives to the CEAA's existing Certified Environmental Auditor (CEA) program. The CEA program is the most demanding certification and is intended to meet specific marketplace needs of many of CEAA's major stakeholders.

The CEAA is a non-profit association dedicated to furthering the development and professional practice of environmental auditing. For more information, visit the CEAA Web site at www.ceaa-acve.ca ■

New mutual recognition agreement in the works

The Standards Council of Canada is working toward a mutual recognition agreement with the European co-operation for Accreditation (EA) that will make it more convenient and less expensive for European companies to certify their products to Canadian standards, and vice versa.

Under the agreement, Canadian companies will be able to have their products certified to European voluntary standards by Canadian certification organizations. Similarly, European companies will be able to have their products certified to Canadian standards by European certification organizations – a change that will save time and money by eliminating the need for multiple certifications.

The agreement is also expected to provide increased business opportunities for Canadian certification organizations in the area of product testing – although European products may not be certified by Canadian organizations, they will probably be tested to ensure performance.

The agreement is possible because both Canada and the European Union will use *General requirements for bodies operating product certification systems* (ISO Guide 65) as the basis for accrediting certification organizations. However, each has additional requirements that must be met before certification can be granted. As a result, the Standards Council and the EA will conduct peer reviews before the agreement is implemented to ensure that each side is capable of certifying products to the other's standards.

Implementation of the agreement could come as early as the spring of 2000, pending the outcome of the peer reviews that will likely be conducted between October and December of this year.

The agreement is part of an initiative by the European Union and Canada's Department of Foreign Affairs and International Trade to facilitate trade between the two economies. ■

Letter to the Editor

Subject: "No Lab Too Small – Quality assurance programs have room for small laboratories" (p. 25, March/April 1999).

This article raised some questions for me that may be common to a lot of readers.

There is no mention of the actual cost for a small lab to participate. The fees could have been alluded to in percent of operating budget or, more usefully, in actual dollars. That the fee can be reduced by $900 implies a substantial initial sum.

The article should have mentioned the fee range for small and large labs, typical costs of changes in lab procedure and the benefits derived therefrom. Real numbers would have made the article more news and less a vague advertisement.

David Grant, P. Eng.

Author's reply

Labs and their clients frequently ask whether small labs can comply with the requirements of internationally recognized quality assurance programs. In this article I used data about the participation rates of small labs in both proficiency testing and accreditation programs to illustrate that they have both the technical and financial ability to participate.

Fees vary depending on the nature of the participation. As an example, a small lab doing basic testing on municipal or industrial waste discharge would spend about $1400 per year for proficiency testing, and an average of about $2600 per year for the additional costs of the accreditation site assessments.

Rick Wilson, Canadian Association for Environmental Analytical Laboratories (CAEAL)

International standard for IT security

An international standard is poised to open new markets for information technology (IT) security products and make it less expensive for Canadians to protect sensitive information from loss, alteration or disclosure.

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) have approved the Common Criteria for Information Technology Security Evaluation, popularly known as the Common Criteria, as an international standard. The new standard will be called ISO/IEC 15408:1999, *Information technology – Security techniques – Evaluation criteria for IT security*.

Canada's Communications Security Establishment (CSE) developed the Common Criteria along with partners in the United States, the United Kingdom, Germany, France and the Netherlands. The Common Criteria is used to evaluate confidence in the ability of IT products to safeguard confidential information. A product successfully evaluated and certified in one partner country is automatically approved for use in the others.

The adoption of the Common Criteria as an international standard means that even more countries will be taking the same philosophical and technical approach to providing IT security. It increases the number of countries in which certification will be recognized, opening up new markets for Canadian producers of certified IT security products.

Canadian consumers of IT security products, such as the federal government, will also benefit from the standard. It will increase competition among IT security providers – likely meaning lower prices for consumers – and expand the list of IT security solutions available. ■

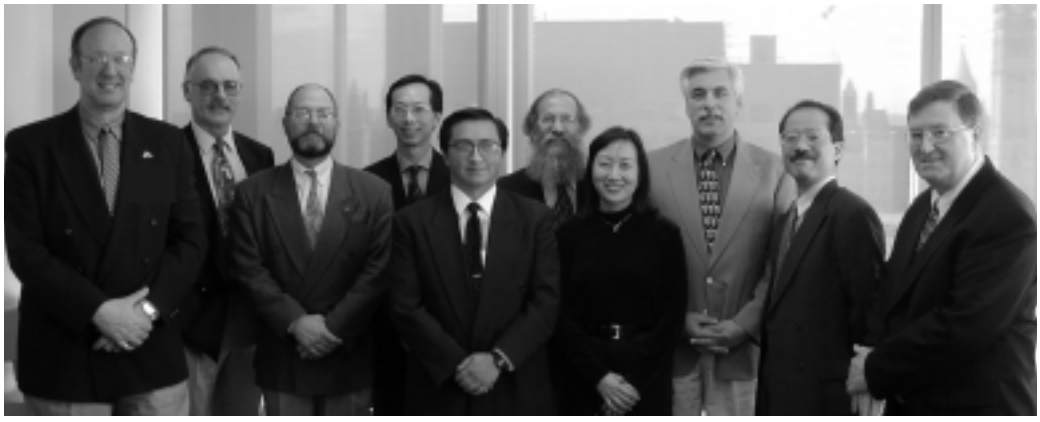
SCC levels the international field for accredited labs

Laboratories accredited by the Standards Council of Canada are one step closer to having their accreditation recognized in countries like Australia, Japan, Singapore and the United States.

Accreditation bodies from those and other countries have signed the mutual recognition arrangement of the Asia Pacific Laboratory Accreditation Cooperation (APLAC). The Standards Council could sign the arrangement as early as this November, thanks to a favourable APLAC assessment this May.

Signing the arrangement will allow other countries to recognize accreditation by the Standards Council's Program for the Accreditation of Laboratories – Canada (PALCAN) as equivalent to their own. That means that tests performed by Standards Council-accredited laboratories will have greater acceptance in other countries, and, as a result, Canadian products may enjoy easier access to foreign markets. And that, says Art Kempthorne of the Canadian Plywood Association, could make a big difference.

"We've obtained independent recognition in a number of countries at a considerable cost," says Mr. Kempthorne. "Recognition by those countries of SCC accreditation should result in significant savings in cost and time associated with our current acceptances, and provide others we don't yet have." ■



From left to right: Don Wilson, Gary Hysert, Miguel Viliesid, W.W. Wong, Victor Hugo Angeles, Jeff Horlick, Barbara Voon, Dough Faison, Ray Komito and Rick Wilson at the Standards Council during the May APLAC assessment.

Summer recognitions in new SCC program

The Standards Council's Program for the Accreditation of Laboratories – Canada could be making another announcement by the end of this summer. The Council is set to recognize two facilities under its Good Laboratory Practices (GLP) program specialty area. GLP covers the organizational process and conditions under which non-clinical studies are planned, performed, monitored, recorded and reported. The Standards Council's program is based on guidelines published by the Organisation for Economic Co-operation and Development (OECD). ■

Putting Proficiency Testing to the Test

A new survey indicates that Canada is in step with international laboratory proficiency testing practices

by Denise LeBlanc, National Research Council of Canada (NRC) and Rick Wilson, Canadian Association for Environmental Analytical Laboratories (CAEAL)

Proficiency testing programs are commonplace in the laboratory business, yet there are significant differences among them. Our two agencies recently conducted a survey of Canadian and international programs to identify some of the "norms" for key characteristics and costs.

Proficiency testing programs are the subject of ISO/IEC Guide 43, *Proficiency testing by interlaboratory comparisons*, and other guidance documents from the international community. In Guide 43, proficiency testing is defined as "the use of interlaboratory comparisons to determine the performance of individual laboratories for specific tests or measurements and to monitor laboratories' continuing performance". The guide notes that "Typically, these schemes involve the results from several split samples over a wide concentration range...".

Recently (14 April 1999), the accreditation policy committee of the International Laboratory Accreditation Cooperation (ILAC) noted that proficiency testing frequency and monitoring are two of the issues "relating to divergences of practice between accreditation bodies".

The environmental laboratory industry in Canada and the United States is an example of this divergence. The proficiency testing program operated by CAEAL as part of the Standards Council of Canada/CAEAL joint accreditation program for environmental labs provides two sets of samples annually for each test group selected by the lab. Each set contains four samples across a concentration range. In contrast, the newly developed standards (July 1998) for the U.S. National Environmental Laboratory Accreditation Conference (NELAC) call for a single sample twice annually.

For the purposes of this survey, over 100 agencies around the world were contacted for information about their proficiency testing programs. Although information is still arriving, we have received more than 50 responses to date, allowing us to develop some preliminary conclusions. Initially, we examined the data in two ways: (1) broadly by program, incorporating all programs that have responded; and (2) for environmental testing programs, by individual test group.

The program comparison confirms that there is a broad range of requirements, however there seems to be some consistency among those organizations that are accrediting bodies applying ISO/IEC Guides. From the information in hand, the median number of rounds per year is two and the median number of samples per round is four.

With the subset of environmental programs broken into individual test groups, the pattern appears to be switched: the median number of rounds is four per year while the median number of samples per round is two. This subset has not yet been further differentiated into those that support ISO/IEC Guide 25 programs and those that do not. Eventually, the complete data set needs to be examined for sample range, sample quality, number of analyses, scoring methods, implication of failures and other characteristics.

Although the data collection and associated analyses are still incomplete, there is certainly enough for us to conclude that the SCC/CAEAL program for accreditation of environmental labs is being supported by a proficiency testing program in which the key design characteristics — and costs — fit the international norm. A full report will be available from CAEAL later this year. ■

A Clear and Present Danger?

Protecting Canadians at Health Canada's Product Safety Bureau

It's a museum unlike any other. In a small room, glass display cases line the walls and a large one sits in the centre. All are filled with toys. There are crayons, tiny teacups, playpens, strollers, spoons and rattles. There are toy guns, dolls, necklaces and pacifiers. It's a child's dream – and a parent's nightmare. Whether it's because they contain lead, cadmium or other toxins, or because they can cause choking or physical injury, every one of these toys poses a health or safety risk.

The museum is the first stop in a tour of the brand-new Product Safety Laboratory, a new building for the Health Canada division that tests whether or not consumer products meet Canadian safety requirements. It is a gleaming, state-of-the-art facility in the south end of Ottawa that houses the labs used to test toys, lighters, textiles, furniture, detergents and more.

In the flammability lab on the second floor, Josephine Glaser gets ready to do her work. She prepares the sample and secures it in the apparatus. She conducts her test with disturbing results.

The sample is a strip of a young girl's nightgown. The test is to see how quickly it will burn. In this case, the nightgown is 100 per cent cotton, and the 127-mm strip burns until there is nothing left in less than seven seconds. "That," explains Ms. Glaser, "is why you'd never see a pure cotton children's nightgown anymore under Canadian regulations."

The textiles she tests here must meet the requirements of specific standards referenced in the *Hazardous Products Act,* in this case ASTM D1230-61, *Standard Method of Test for Flammability of Clothing Textiles.*

In fact, the procedures followed in this lab are all standardized, and the lab is run in accordance with the principles of ISO Guide 25. Ms. Glaser turns back to a table full of samples – bathrobes, pyjamas, skirts and stuffed animals – all of which she will eventually set aflame. If any one of them fails the test, Ms. Glaser provides the test results to product safety officers in Ottawa and to inspectors across the country. If deemed necessary, Health Canada may ask the manufacturer or the importer to voluntarily withdraw the items from stores. If they fail to comply, the government can step in and remove them.

The work here is at once destructive and protective. Employees test what it takes to break a bunk bed, how much lead is released if a necklace is swallowed and how hard a teething ring can be chewed, pushed and pulled before it will break. They check how loud toys are and test how well a lighter can withstand dropping, pressure and high temperatures. There are 24 people working here in three areas of specialization: chemistry, flammability, and engineering. All the tests they perform are designed to protect the Canadian public from potentially dangerous products.

The items they test come to them in a variety of ways. About 500 products a year are expected – inspectors bring them in at regular intervals. For these there are established test methods. On top of those there are the unexpected products – they come to the lab only after the public has complained about them. The laboratory staff is understandably proud of the work they do here.

Pierre Chantal, acting chief of the Product Safety Laboratory, explains that for many of the tests they do, the equipment needed does not exist and so it must be developed on site. "We try to adapt an existing machine so it can perform the test. If we can't do that, we build a new machine – a lot of the equipment is invented right here because there is a test we need to do that hasn't been done before." As an example of his team's creativity, Mr. Chantal points to the machine that simulates a child jumping up and down on top of a bunk bed. If it needs to be tested, they'll find a way. ■

Checking the Balance

A peak at the mass laboratory of the Institute for National Measurement Standards

George Chapman points to the red numbers on the display of a balance in his laboratory. "If you believe those," he says, "you're not wanted here."

Mr. Chapman is the group leader of the mechanical metrology group, which includes the mass standards program at the National Research Council of Canada (NRC). The work he and his five program co-workers carry out allows Canadian laboratories to say that the measurements they take are traceable to established international standards, set by the Bureau international des Poids et Mesures. That traceability is an essential part of the Calibration Laboratory Assessment Service, an NRC-run program which, in partnership with the Standards Council, accredits competent calibration laboratories.

This work also allows Canadian companies in the mining, forestry, aeroengine manufacturing, pharmaceutical manufacturing, shipbuilding and aviation industries to conform to international standards. It's a service that's essential to international trade.

It's hard to imagine just how sensitive these measurements are, but to see Mr. Chapman at work yields some idea.

Mr. Chapman is warm and pleasant as he greets his visitors, but he makes it clear that tours are not taken lightly. Mr. Chapman tells guests, like children in a china shop, "the first rule is, don't touch anything." Even if they touch nothing, the vibrations caused by their feet striking the floor as they walk and the carbon dioxide they exhale as they admire what they see will affect the measurements he takes, quite possibly rendering the laboratory useless for the rest of the day.

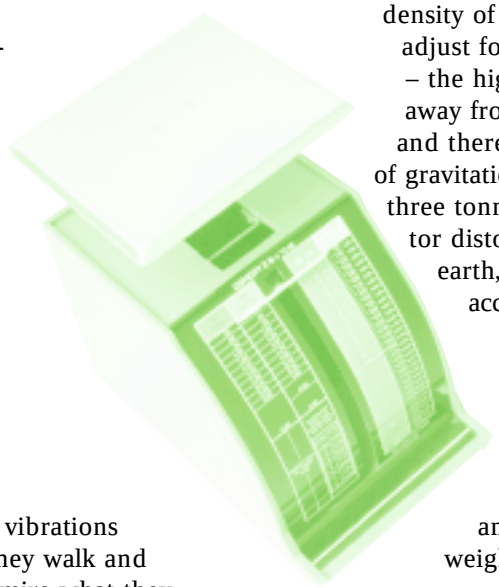
It's worth it to share what he's doing here.

Mr. Chapman wears white, wrist-length gloves as he handles glossy metal masses. The first, known as K74, is Canada's prototype of the kilogram. He removes it, a lustrous platinum and iridium cylinder, from under two glass bell covers. He places it carefully on a metal carrier inside a machine called a comparator, which sits on three metric tonnes of granite to lessen the effects of vibrations. On another spot on the carrier he places the other mass, a form with the dull sheen of stainless steel that must be tested to ensure that it weighs the same as the standard.

"Tonight, while we're all sleeping, these machines will make their measurements," says Mr. Chapman. The building must be empty for the forces exerted by the masses on these platforms to be compared so that no vibrations, no air currents, will disturb the sensitive measurements that take place. The readings are precise to within 1 to 2 millionths of a gram.

Mr. Chapman explains that there's a lot more to the measurements than just placing the masses on the comparator. "We're living at the bottom of a sea of air," he says, "and the different densities of these metals mean that they have different amounts of buoyancy in that sea."

Not only does he have to adjust for the density of the masses, but he also has to adjust for their different centres of gravity – the higher the centre of mass, the farther away from the centre of the planet it is and therefore the smaller will be the force of gravitational attraction. In addition, the three tonnes of granite under the comparator distort the gravitational field of the earth, and this distortion must be accounted for. Since the comparators operate by using electromagnetic force compensation, Mr. Chapman has to take into account the magnetic properties of the metals before he can measure their weight. It's a picky and complicated business, but the weights of the world depend on it. ■



A "NU" code for Nunavut

Standards clear the way for consensus

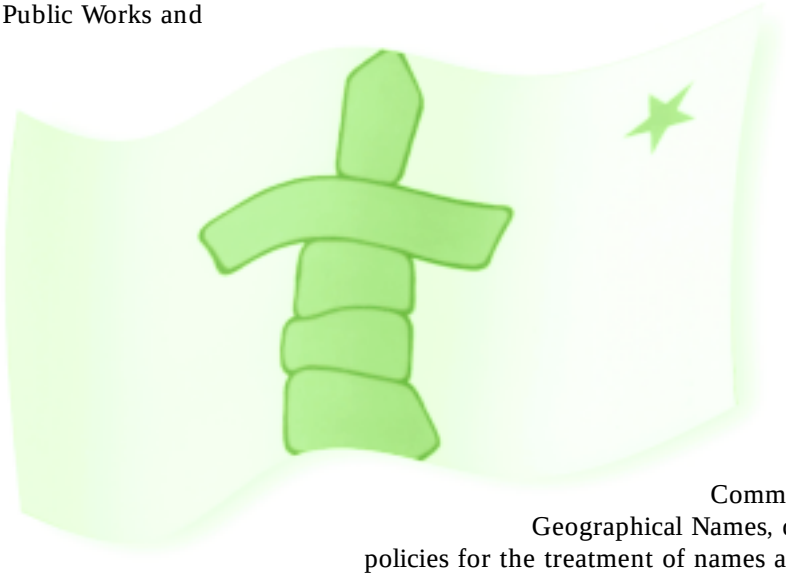
This past April 1st, when Nunavut officially became a new territory, it was an occasion that called for celebrations, speeches, songs – and standards.

The creation of a new territory opens up a whole new area for federal government departments and Crown corporations like Revenue Canada, Statistics Canada, Canada Post, Industry Canada, Public Works and Government Services Canada, Natural Resources Canada and the National Library of Canada to think about. Each one of those bodies uses a standard code to keep track of geographical areas for very different, and very important, reasons.

Canadians are probably most familiar with the codes Canada Post uses to tell different regions apart. Canada Post uses postal designators like NS for Nova Scotia and BC for British Columbia to help speed mail to the appropriate address.

But all the other agencies use those or other codes as well. Senior officials in Revenue Canada's client identification section say the code is "a keystone piece of data in tax assessment and benefit administration."

They explain that the code is used to determine at which provincial or territorial tax rate a person or business should be assessed, and which rate of family benefits a person should receive. It's also used to calculate what proportion of the taxes collected should go to each province and territory for which Revenue Canada collects taxes.



For Statistics Canada to be able to collect and compile data, it needs to be able to distinguish among geographical areas by using an easy indicator, in this case, the code.

Natural Resources Canada, through the Canadian Permanent Committee on Geographical Names, develops standard policies for the treatment of names and terminology and thus is keenly interested in any new code.

And, of course, the government of Nunavut had a great interest in what the new code should be – the code is part of Nunavut's self-definition.

To arrive at the code that will represent a new region, nations use a standard developed by the International Organization for Standardization (ISO), ISO 3166-2,

Codes for the representation of names of countries and their subdivisions – Part 2: Country subdivision code. It states that the code should be up to three alphanumeric characters long. In Canada, subdivision codes use two letters. And because there is so much exchange between the Canadian and United States postal systems, our codes can't duplicate codes used elsewhere in North America.

Even though the format of the code is clearly laid out, the actual code to be used is left up to the nation with the new region. But with this many players in Canada having this many reasons to be interested in the new code for Nunavut, it's not surprising that there was some trouble achieving a consensus on what the new code should be.

That's where the Standards Council of Canada stepped in. The Standards Council was able to go beyond explaining the international standard by acting as a liaison between the groups.

On May 19th, 1999, after weeks of letters, e-mails and phone calls discussing the new code, a meeting was held in the boardroom of the Standards Council of Canada so that all the interested parties could come together to discuss, face-to-face, what the new code for Nunavut should be. The meeting was chaired by Leigh-Anne Stanton of Canada Post, and organized by Doug Langlotz of the Standards Council. The 16 attendees spent an hour and a half discussing the code, and eventually settled upon "NU".

The story doesn't end there, however. Now that a new code has been chosen, the Canadian advisory committee to ISO technical committee 46, the committee responsible for ISO 3166-2, must approve it. If the choice is approved, it will then be sent to the maintenance agency, the body responsible for maintaining a complete and up-to-date list of the codes for subdivisions of countries (please see box "Just what is a maintenance agency?")

Those eager to show their standards savvy should hold off before addressing a letter with the code "NU", however, Canada Post has recently completed making all its mail sorting systems Year 2000 ready, and it doesn't want to jeopardize that by changing the system again just yet. For the time being, mail to Nunavut should be addressed using "NT", the code for the Northwest Territories (of which Nunavut was formerly a part). Canada Post will be changing its systems after the Year 2000 has come and gone, though, so save a few stamps to mark the occasion. ■

Just what is a maintenance agency?

A number of international standards developed by ISO technical committees involve assigning codes or numbers that need to be unique, with no duplications even across different countries. In order to be able to do this, the standards call for an administrative body that has the necessary infrastructure to ensure effective use of the standards by assigning codes and maintaining lists of codes in use. The bodies that assign codes are known as registration authorities, while the bodies that maintain lists of codes but have no responsibility for their content are called maintenance agencies. More information on this subject will be posted on SCC.CA soon.

Standards for an Aging World

Standards bodies are preparing to meet the challenges posed by an aging population

International Year of Older Persons
Canada, a society for all ages

We're not getting any younger.

While this rueful observation is generally applied on an individual basis, it's also true of the world's population as a whole. The world, especially the developed world, is aging, with older people making up an increasingly large percentage of the population. By 2025, about one in four Canadians — roughly twice the current proportion — will be over 65.

That's a significant demographic change, and it's led to a lot of discussion around the world about how society will have to change to meet the needs of an aging population. The United Nations, for example, has designated 1999 as the International Year of Older Persons.

Standards bodies have a special role to play in meeting this challenge, because standards will influence the design and delivery of the products, services and environments that people use as they age. Ensuring that those standards reflect the needs and priorities of an aging world is going to require a change not only in their content, but also in the way they're developed.

When I'm sixty-four

One of the main challenges facing society is to ensure that the growing population of older people can live healthy, active and independent lives. That requires taking the effects of aging into account in the design of products, services and environments.

While aging doesn't necessarily bring about disability, the incidence of disabilities is highest among older people. As the years go by, most people will experience some reduction in senses and physical capabilities such as sight, hearing, balance, coordination and strength. Mental faculties can also be affected by aging.

Those reduced capabilities can make everyday living difficult or even hazardous. According to Health Canada, seniors are three times as likely as any other age group to suffer an accidental injury that leads to hospitalization or death. Many of these injuries occur in the home, and involve common household products.

These and other problems experienced by seniors aren't an inevitable result of "old age" — they're the result of living in a world designed by and for able-bodied younger adults.

That bias toward the able-bodied is often reflected in standards. For example, of the several types of standardized crash-test dummies used around the world (please see our January/February 1999 issue), most are designed to simulate an average adult male. Dummies that model smaller women, larger men, children or infants are available, but are less common.

Designs of the times

Applying a different design philosophy would make products, services and environments more accessible to almost everyone. **Universal design** refers to the development of products and services that can be used by people with a wide range of abilities and in a wide range of circumstances — not just an average able-bodied adult but also older people, children, people who are taller or shorter than average, people with back pain or arthritis, or just someone with an armload of groceries.

Because it focuses on the needs of a wide variety of users, universal design benefits the able-bodied as well as people with disabilities. For example, single-lever

faucets are helpful not only for people who have problems grasping and turning a knob, but also for cooks with greasy hands. Wider doors and hallways for wheelchair users also make it easier to move furniture. High-contrast, easy-to-grasp controls on appliances such as the kitchen stove are easier to use when you're tired or distracted.

Universal design doesn't have to mean higher costs for the manufacturer or the user. In many cases, what's required isn't special features or additional materials, but just a little more consideration of the needs of potential users. Making changes at the design stage can be much less expensive than modifying a product after buying it, or purchasing a custom-made version.

In many cases, what's required isn't special features or additional materials, but just a little more consideration of the needs of potential users.

Closely related to universal design is the concept of **accessible design**. This is the development of products, services and environments that meet the special needs of people with specific performance limitations — in other words, people who need more assistance than it's economically or technically feasible to provide through universal design. Examples of accessible design range from mass-market items designed with disabilities in mind (both the Windows and Macintosh computer operating systems include built-in accessibility features, for example) to special-purpose assistive devices.

Standard solutions

Accessible design isn't a new concept for standards bodies. For example, CSA International has published *Barrier-Free Design* (CAN/CSA B651-95), a National Standard of Canada that describes how to make buildings accessible for people with a variety of physical or sensory disabilities.

The International Organization for Standardization (ISO) has developed standards for wheelchairs and lifts, and its technical committee on systems and aids for people with disabilities (TC 173) is developing standards for walking aids, Braille, and acoustic and tactile signals for traffic lights.

When it comes to other products, however, standards bodies have tended to overlook the needs of older people or people with disabilities — and in some cases have even made their lives more difficult.

For example, a common complaint among older people is that child-resistant drug packages are hard to open. The Canadian standard for child-resistant packaging used to include a test of adults' ability to open the packages. But the test panel had to be between 18 and 45 years old, and "be healthy and normal and have no obvious physical or mental handicaps". That requirement excluded the people most likely to require medication — and most likely to have difficulty opening the container. Recently, the standard was updated to include a seniors' ease-of-use test (please see "SAGA leads the way at CSA").

Product standards aren't the only way that standards bodies can help to improve quality of life for older people and people with disabilities. Other areas that have been proposed for standardization include home care services, drug labeling, systems for monitoring medication use, and residences for older people.

To develop standards that effectively meet the needs of older people and people with disabilities, however, standards bodies are going to have to undergo a change in attitude and focus.

That's beginning to happen. Last year, CSA International established a strategic advisory group on aging (please see box for details). ISO's consumer policy committee (COPOLCO) has formed a working group on the special needs of the elderly and people with disabilities.

Those needs were the focus of a special COPOLCO workshop that took place in Washington, D.C. in May. Delegates from around the world discussed concerns, needs and current initiatives, and ways in which standards bodies can help.

One point that was stressed repeatedly was the need

for greater participation by seniors and people with disabilities in standards development committees. That's going to be a significant challenge for standards bodies, who will have to increase awareness of standards and find some way to financially support increased participation.

Sensitivity training exercises were recommended to allow able-bodied committee members to experience the effects of aging first-hand.

Standards bodies also need to research the specific needs of seniors and people with disabilities — for example, to determine which products are most difficult or dangerous to use — and incorporate the results of that research into standards development.

Finally, standards committees need to incorporate the principles of universal and accessible design into their work.

COPOLCO is already taking steps to point ISO in the right direction. It has prepared a draft policy statement for ISO and the International Electrotechnical Commission (IEC) that incorporates the ideas developed at the workshop. The committee also plans to develop a guide for technical committees that provides guidelines on universal and accessible design, and to consider the feasibility of a management standard for home care services. ■

SAGA leads the way at CSA

A new advisory group is helping to make CSA International a leader in incorporating the needs of seniors into its standards work.

The strategic advisory group on aging (SAGA) was established in late 1998. Its membership includes researchers, government, physical therapists, long-term care providers, gerontology experts and seniors advocacy organizations. The group's job is to provide advice and recommendations to CSA on standardization issues related to aging. A staff project team supports the work of SAGA.

SAGA's work is already paying off. The latest revision of *Recloseable Child Resistant Packages* (CSA Z76.1-99) includes a test of the packages' ease of use for people between 50 and 70. *Illumination Systems in Health Care Facilities* (CSA Z317.5-98) permits higher lighting levels to compensate for impaired vision, even though this increases energy consumption. CSA now provides sensitivity training to its staff and standards committee members.

SAGA also provides Canadian input to COPOLCO's working group on the needs of seniors and people with disabilities.

For more information on SAGA, please contact Martin Grosskopf, phone (416) 747-4187, e-mail grosskom@csa.ca. For more information on the COPOLCO working group, contact Jeanne Bank, phone (416) 747-2624, e-mail bankj@csa.ca.

Global Marketplace Puts CASCO to the TEST

The growth of world trade puts the spotlight on ISO's conformity assessment committee

It takes more than international standards to create a global marketplace. Purchasers, regulators and consumers also need some way of verifying that products and services actually meet the requirements of those standards. That's the job of conformity assessment organizations.

Most of those organizations operate according to guidelines developed by the committee on conformity assessment (CASCO) of the International Organization for Standardization (ISO). CASCO has been around since 1985, but over the last few years its role and structure have changed significantly.

For example, CASCO now produces international standards as well as guides. That means its documents reflect the highest degree of international consensus. A number of projects now under way will convert existing guides into standards.

Future CASCO standards could be less complicated and easier to apply. A joint working group with the European standards bodies CEN and CENELEC is reviewing the documents' structure with this goal in mind.

As part of this effort, some existing documents are being combined. A proposed new accreditation standard, for example, will combine requirements for inspection, management systems and laboratory competence. The joint working group is considering a similar structure for documents dealing with certification.

CASCO is also working more closely with other bodies within and outside ISO. It is examining the way that technical committees (TCs) and CASCO work together, and reviewing references to conformity assessment in standards development guidelines. CASCO has surveyed TCs on their use of ISO/IEC Guide 7, *Guidelines for drafting of standards suitable for use for conformity assessment.* It will use the results of this survey to make the upcoming revision more relevant to the work of technical committees.

To get a better sense of industry's needs, CASCO has created an Industry Advisory Network (IAN). The network will operate primarily through e-mail, making it open to companies and organizations that can't afford to participate in face-to-face meetings. CASCO is also considering ways to increase its links to consumers and public officials through bodies such as ISO's consumer policy committee (COPOLCO) and the World Trade Organization (WTO).

The committee is working closely with non-ISO bodies such as the International Accreditation Forum (IAF) and the International Laboratory Accreditation Cooperation (ILAC), which use CASCO documents intensively in their activities.

Developing countries face their own conformity assessment problems. While much of the world's manufacturing now takes place in developing countries, conformity assessment results produced in those countries often aren't accepted in the developed world. CASCO and ISO's committee on developing country matters (DEVCO) are organizing a workshop on this issue, which will take place next year.

Adapted from articles in the May, 1999 issue of ISO Bulletin

CASCO at work

Here's a look at some of the projects under way in CASCO:

- ISO/IEC 17000, *Conformity assessment — General vocabulary*, a revision of part of ISO/IEC Guide 2, *Standardization and related activities — General vocabulary*
- ISO/IEC 17024, *General criteria for certification bodies operating certification of personnel*
- ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*, a revision of ISO/IEC Guide 25 that's expected to be published in December
- ISO/IEC 17030, *Marks of conformity and their use*
- ISO/IEC TS (technical specification) 17031, *Product symbol and criteria to be used with a supplier's declaration of conformity*
- ISO/IEC Guide 66, *General requirements for bodies operating assessment and certification/registration of environmental management systems (EMS)*
- ISO/IEC Guide 67, *Fundamentals of product certification*
- ISO/IEC Guide 68, *Considerations in entering into mutual recognition agreements for acceptance of conformity assessment results*

Public review
Notices

Listed below are standards being proposed (p), revised (r), withdrawn (w) or amended (a). Copies are available from the designated accredited standards development organization. Normally there will be a minimum charge for each copy of a document ordered. Please note that these documents are intended for review and comment, not for application.

Canadian General Standards Board (CGSB)

Telephone: (819) 956-0425 or
1-800-665-CGSB (Canada only)
Fax: (819) 956-5644

CAN/CGSB-1.212 Chromate and Lead Free Marine Primer for Steel and Light Alloy Surfaces (r)
CAN/CGSB-3.6-M90 Automotive Diesel Fuel (a)
CAN/CGSB-3.13-M88 Liquefied Petroleum Gas (Butanes) (a)
CAN/CGSB-3.18-92 Diesel Fuel for Locomotive Type Medium Speed Diesel Engines (a)
CAN/CGSB-3.27 Naphtha Fuel (r)
C/CGSB-3.512** Fuel Ethanol (E60-E80) for Automotive Engines (p)
CAN/CGSB-3.517-93 Automotive Low Sulphur Diesel Fuel (a)
CAN/CGSB-3.1000-M91 Standard for Vapour Control Systems in Gasoline Distribution Networks (a)
C/CGSB-155.20** Workwear for Protection Against Hydrocarbon Flash Fire (p)
C/CGSB-155.21** Recommended Practices for the Provision and Use of Workwear for Protection Against Hydrocarbon Flash Fire (p)

National Standards
of Canada

Since the last issue of *CONSENSUS*, the following standards were approved as National Standards of Canada by the Standards Council of Canada. For information on availability and prices, or to order copies of these standards, please contact the appropriate standards development organizations below. Some documents may be available in only one language.

CSA International

Telephone: (416) 747-4044
Fax: (416) 747-2475

CSA ISO 14971-1 Medical devices – Risk management – Part 1: Application of risk analysis
CSA ISO/IEC ISP 10612-5 Information Technology – International Standardized Profile RD – Relaying the MAC service using transparent bridging – Part 5: Profile RD51.54 (CSMA/CD LAN – FDDI LAN)
CSA Z10651-2 Lung ventilators for medical use – Part 2: Particular requirements for home care ventilators

Canadian General Standards Board (CGSB)

Telephone: (819) 956-0425 or
1-800-665-CGSB (Canada only)
Fax: (819) 956-5644

CGSB/ONGC 32.310 Organic agriculture

For a searchable database of all National Standards of Canada, please visit the Standards Council's Web site at http://www.scc.ca.

Accreditation News

The Standards Council of Canada accredits a variety of organizations that provide standards and conformity assessment services. Accreditation formally recognizes the competence of an organization to carry out specific functions and provides a basis for national and international acceptance of products and services.

In most cases, organizations are accredited to provide services within a particular scope or field of activity. For complete scope and contact information on any accredited organization, or for information on the Standards Council's accreditation programs, please visit our Web site at http://www.scc.ca or contact our information division.

New accreditation

Environmental Management Systems Registrar

Canadian General Standards Board, Hull, Quebec

Upcoming Events

July 24 – 31, 1999: PAC plenary meeting in Vancouver, BC. For more information, see "SCC to host international conference" on page 4 or contact the Standards Council of Canada, using the contact information on page 3.

August 8 – 11, 1999: Canadian Society of Safety Engineering (CSSE) Professional Development Conference and Exposition, "Safety Comes of Age", in Hamilton, ON. For more information, contact CSSE, (905) 893-1689, fax (905) 893-2392.

August 16 – 17, 1999: Standards Engineering Society (SES) annual standards conference: "Standards Strategies in a Competitive World", Toronto. For information, contact Glenn Ziegenfuss, (305) 971-4798, fax (305) 971-4799, e-mail hgziggy@worldnet.att.net, Web site http://www.ses-standards.org.

September 8 – 10, 1999: CEN Conferences: "Pressure Equipment in Europe", Brussels, Belgium. For more information call + 44 181 780 9674, fax + 44 181 785 1163 or e-mail cenconf@blueprint-ptnrs.co.uk.

October 18 – 29, 1999: International Electrotechnical Commission (IEC) annual general meeting, Kyoto, Japan. For information, contact the Standards Council of Canada, using the contact information on page 3.

October 20 – 22, 1999: International Organization for Standardization (ISO) annual general assembly, Beijing. For information, contact the Standards Council of Canada, using the contact information on page 3.

November 1 – 2, 1999: Canadian Environmental Auditing Association (CEAA) Annual Meeting and Technical Conference: "Auditing Opportunities – Beyond ISO 14000," Toronto, Canada. For more information, call (905) 567-4705 or fax (905) 814-1158.

February 6-8, 2000: European Community Institute, 8th annual international conference on ISO 9000 and related standards, Lake Buena Vista, Florida. For more information, contact the International Conference on ISO 9000, (412) 782-3383, fax (412) 782-3384, or e-mail iso9000x@aol.com.

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