ACPA NEWS

The Newsletter of the Association of the Chemical Profession of Alberta

VOLUME 7 NUMBER 1

Announcements

Special to this issue is an article on ISO 17025 written by Dale Enright, and the minutes from the Annual General Meeting.

A reminder to everyone that the 2001 Professional Development Seminar will be held at the Sheraton Cavalier in Calgary February 6 and at the Alberta Research Council in Edmonton February 7 starting at 8:30AM. The topic is Chemistry and Criminalistics and Industrial Espionage with guest speakers from the California Department of Justice Laboratory and from CSIS. The cost will be $250. Lunch and study material provided. Advance booking would be appreciated.

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From the President

Don White

Here we are in January, 2001, to some the real start of the new millennium. Whatever your thoughts on the millennium issue, I hope that you had a good holiday season.

The most important news from the Board's perspective is the results of the ratification vote on the Professional Chemists Regulation. We are happy to announce that the Regulation was almost unanimously approved by the membership who returned their ballots. We received only one negative response to the Regulation. We would like to thank all the members who took the time to read the Regulation and send back their ballot.

I have forwarded the required certification and copy of the Regulation to Lynn Johnson at the POARA office. She will complete the form for the approval of the Regulation that is required by the administration and send it to the appropriate people within the Department of Human Resources and Employment. She estimates that it will take 4-8 weeks to get through the Department and up to the Honorable Clint Dunford, Minister of Labour. When it reaches the Minister, the next step is for it to go to Cabinet for approval. My main concern right now is that the Premier will call the election before the form reaches Cabinet level for approval. Let's hope that the document has a rapid journey through the bureaucratic maze to the Minister.

With respect to the establishment of the ACPA website, we have made some progress. The first domain name that we were interested in was acpa.ca. Unfortunately that domain is the property of the Air Canada Pilots Association. Our next choice was pchem.ca. I am happy to report that we have acquired the rights to that domain name for the Association. We are now working on the requirements for the website and the information that we feel would be appropriate to put on the site.

The response from the membership regarding the proposed changes to the Alberta User Guide for Waste Managers was underwhelming. We submitted a response to the request for input based on the input we received. Although the consultant has not forwarded any drafts of the Guide to the stakeholders, the Board requests that those of you who deal with waste issues would pass any comments or opinions on the User Guide as it now exists or on changes that you think might be important to Erv Callin , e-mail address at ervc@envirotest.com. We cannot guarantee that any ideas will be accepted or implemented but we would like to be able to present your ideas at any meetings that are setup. If you send comments to Erv by e-mail then we will be able to contact you when stakeholder meetings are set-up by Alberta Environment and the consultant.

In November, we took our new tabletop display to two meetings in the Edmonton area. Our intent was to try to raise awareness of other technical societies and technically oriented people about the ACPA. It was the opinion of those who manned the display that the Edmonton Association of Technical Societies was the most useful venue for our efforts. This meeting was attended by members of many technical societies in Edmonton and we were able to inform several potential members about the aims and objectives of the Association. I would like to thank Ken Schmidt and Stan Backs for their time and effort in putting together an excellent display.

Last but by no means least, I would like to remind all the members of the Professional Development Seminar that the Association is sponsoring in February. Sessions will be held in both Calgary and Edmonton. Professional development is something that will be required by the Professional Chemists Regulation to maintain your professional standing in the Association. We need your support to make this a success. Please register promptly for this seminar and indicate you preferred location.

I welcome your comments and ideas on the promotion of the ACPA and how it can serve its membership more effectively. You can e-mail you comments to donwhite@safety-kleen.com

Don White
President

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Bio Corner

Kevin Dunn, B.Sc,

Kevin Dunn, Past President of the Association of the Chemical Profession of Alberta, is Vice President, Environmental Management Systems at Jacques Whitford Environment Limited. In 1977, he graduated from the University of Calgary with a bachelors degree in chemistry and has since obtained a Certificate in Business Management from the Canadian Institute of Management.

Kevin has had a varied and interesting career. In chronological order he has been a quality control chemist and an industrial research chemist, for a potash mine in Saskatchewan, an ICP and atomic emission spectrometer salesman, an instrumental analytical chemist in a commercial environmental laboratory, an industrial hygienist, an environmental auditor, accredited as a Certified Environmental Auditor since 1996, and an environmental management systems specialist. Kevin is an active member of the Canadian Standards Association Technical Committee on Environmental Management Systems. He has also returned to his alma mater, the University of Calgary, to instruct professional development courses on environmental auditing and environmental management systems in the Faculty of Continuing Education, and at the Faculty of Extension at the University of Alberta.

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From the Editors

All contributions from members to the newsletter will be welcome. Please send them to Robert Swingle at Maxxam Analytics 2021-41 Avenue N. E., Calgary, Alberta T2E 6P2 or fax them to 403-2919468. If you prefer electronic mail address them to the internet at roberts@internode.net. It would be nice if you could send any lengthy material on disk in PC format using Microsoft Word.

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WE'VE ALL HEARD ABOUT ISO 9000, BUT WHAT IS THIS ISO 17025?
HOW DOES IT APPLY TO MY LAB?

Dale Enright, MCIC, P.Chem.

First of all, what is with all of these different ISO numbers? Well, there are over 15,000 different ISO standards….everything from testing toys to aviation fuel.

ISO 17025 is the evolution of the ISO / IEC Guide 25, a joint partnership between the International Organization for Standardization and the International Electrotechnical Commission. This document is called the General Requirements for the Competence of Calibration and Testing Laboratories. This standard was developed specifically to give guidance to lab managers on both quality management and the technical requirements for the proper operation of a laboratory. Thus, ISO 17025 can be thought of as the technical compliment to ISO 9000. As a matter of fact, any organization who meets the requirements for ISO 17025 automatically is ISO 9000 compliant (but the converse is not true).

> *ISO 17025 is to provide a third-party demonstration to customers that the laboratory has the technical and managerial capabilities to perform specific tests, measurements, or calibrations, to stated standards or to customized procedures within their bounds of stated accuracy, chosen test methods & equipment.*

While the ISO 9000 requirements are generic and can be used by any type of organization, the ISO 17025 requirements are specific to laboratory functions. This standard addresses issues such as the: technical competence of personnel, ethical behavior of staff, use of well-defined test & calibration procedures, participation in proficiency testing (i.e.: inter laboratory comparisons and/or reference materials), and provide guidance on the contents of test reports & certificates generated. As such, this standard fits nicely within the framework of the new ISO 9000 (2000) and the GLP standards.

> *One of the attractive aspects for achieving this standard is that the fee is dependant on the number of tests for which the lab is seeking accreditation. Therefor, for smaller labs one can have as few or as many tests accredited as they wish. Another difference between ISO 9000 and ISO 17025 (ISO/IEC Guide 25) is the accreditation audit. The latter requires an assessor who must have technical expertise in the testing procedures and equipment being inspected.*

One function of the ISO 17025 standard is to demonstrate the lab's abilities to carry out specific tests and/or calibrations. The accreditation certificate will state the tests, equipment used and the degree of accuracy's obtained. Another critical reason why it was developed, was to harmonize laboratory accreditation and acceptance of test data throughout the world. Just recently, the Standards Council of Canada (SCC) announced that they have signed a Mutual Recognition Agreement (MRA) between 28 major trading partners with Canada, including the U.S.A. (as recognized by the NSF, NIST and A2LA). All of these countries will now be required to accept the test results performed by accredited members of these other countries. This should make it easier for companies to market their goods and services to these other member countries.

Other potential benefits include:

- ✓ Provides valid test data that the customer (whether internal or external) can trust;
- ✓ Strong quality control, qualified processes and demonstrations of staff competence provide a greater degree of data defensibility;
- ✓ Provide excellent third-party recognition to your customers; and
- ✓ Should lead to fewer re-analysis of samples.

In Canada, it is the SCC that accredits laboratories. This is done through their Program for Accreditation of Laboratories in Canada (PALCAN). They have partnerships with the NRC, CAEAL, and CFIA (Canadian Food Inspection Agency – division of Health Canada).

Areas Where ISO 17025 Has Been Implemented:

In the EU, it is almost an unwritten rule that companies within their economic community have this accreditation to freely market their product or service. In contrast, North America is only starting to grasp its importance. Upon viewing the SCC's website listing the accredited Canadian labs, it appears that as much as 90% of these organizations are in the Toronto to Montreal corridor.

Surprisingly the leaders are not the Private sector. Numerous Public institutions such as Environment Canada, Fisheries & Oceans Canada, Health Canada, CFIA, NRC, AECL, RCMP, CSA, Agriculture & Agri-Food Canada, and provincial organizations such as the ARC, SRC, and Alberta Agriculture. There is also a large host of Municipalities who have embraced this standard. Within the Private sector, the environmental analytical labs appear to be the present leader.

As one can see, this standard can be implemented for anyone who performs testing, measuring, or calibrating. Just a few more examples include:

- measuring physical properties such as: mass, length, time, electricity, radiation, power, pressure, temperature, humidity;
- in-house or commercial labs;
- Federal, Provincial, and Municipal governments who are more than ever outsourcing their testing requirements to private labs;
- environmental monitoring of air, water, soil for quality (through CAEAL's partnership);
- electrical product safety and properties;
- food safety (through CFIA's partnership);
- agricultural and animal products;
- mineral assays;
- forensic investigations;
- analyses of chemicals, pharmaceuticals, cosmetics, oilfield & refinery products;
- construction and pipeline materials &integrity;
- communication equipment & electrical appliances; and
- medical (Hematology, Microbiology, Urology, & Immunology).

This standard can generally be sub-divided into two main categories: a) Management System requirements and b) Technical requirements. In addition to the usual ISO 9000 requirements, just a few of the requirements unique to ISO 17025 are outlined below.

A. Management System Requirements: The laboratory shall:

- be legally identifiable;
- identify its approved signatories;
- identify its' scope of calibrations and/or tests;
- have arrangements to ensure that its personnel are free from any commercial, financial, and other pressures which might adversely affect the quality of their work;
- have a ratio of supervisory to non-supervisory personnel such as to provide adequate supervision;
- where relevant, have documented policy and procedures to ensure the protection of clients' confidential information and proprietary rights;
- where appropriate, participate in inter laboratory comparisons and proficiency testing programs, use reference materials, or other internal Q.C. protocols;
- ensure the quality of results provided to clients by implementing checks (using internal Q.C. protocols, replicate testing, etc.);
- have sufficient personnel with the necessary education, training, technical knowledge and experience for their assigned functions;

- advise and seek the approval of the client in writing when it intends to sub-contract specific tests or calibrations to another laboratory;
- afford clients the right to monitor the performance of the laboratory in relation to the work performed;
- ensure that adequate records are retained in case of the need for future dispute resolution;
- have procedures to protect data held on computers at all times and to prevent unauthorized access to or amendment of data on computers; and
- have periodic Management Reviews which include the results of any inter-laboratory comparisons, or proficiency tests, and any changes in the volume & type of work undertaken.

B. Technical Requirements: The laboratory shall:

- ensure that personnel who make professional judgements are competent and have the applicable theoretical and practical backgrounds. They must also have integrity and a good reputation;
- maintain records of the relevant competence, educational and professional qualification of all technical personnel;
- define and control access to and the use of all areas affecting the quality of the testing and/or calibration activities;
- include procedures for the sampling, handling, transport, storage, and preparation of items to be tested and/or calibrated;
- include the identity of the personnel responsible for the sampling, performance of each test and/or calibration and checking of results;
- use test and/or calibration methods which preferably are those published as international or national standards;
- inform the client when the method proposed by the client is considered to be inappropriate or out-of-date;
- validate their methods to confirm that they are suitable for their intended use;
- be able to estimate measurement uncertainties when this is a customer requirement;
- perform appropriate checks on calculations and data transfers;
- establish calibration programs for key instruments; and
- establish equipment maintenance procedures and schedules.

Some of this information was provided by the SCC, through their Consensus magazine. Their website is www.scc.ca/palcan/index.html

Dale is the president of Innovative Consulting Solutions. ICS assists companies to implement their Quality Assurance Programs. These include: Good Manufacturing Practices (GMP) for pharmaceuticals, Good Laboratory Practices (GLP), HACCP for the food industry, ISO 9000, ISO 13485 for medical devices, and ISO 17025 for testing & calibration laboratories. He can be reached toll free at 1-866-352-2740 and at dmenright@sprint.ca.

2000 ACPA Board of Directors

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