



*The Newsletter of the Association of the Chemical Profession of Alberta*

**VOLUME 4 NUMBER 1**

**From the President**

Arthur Bollo-Kamara

Last fall, I sent letters to various stakeholder organizations, as part of our POARA registration requirements. We received written replies from 6 organizations. All were favorable except for a few concerns expressed on issues like the status of graduates from new programs offering a Bachelors degree in Science (Kings College and Concordia College in Edmonton). Officials of these institutions were contacted and are in favor of registration with POARA. It is interesting to note that some stakeholders were surprised that the chemical profession in Alberta did not have an association representing their interests. The stakeholders reply and other comments are to be forwarded to POARA before the end of April.

Communications with the Association of the Chemical Profession of Ontario (ACPO):

a) Professional Liability Insurance (PLI): ACPO is currently pursuing this issue with councilors of L'Ordre des Chemistes du Quebec. The Quebec chemists association. By consolidating our efforts, we expect to get a better

package. This issue came up after a professional chemist in Ontario had difficulty obtaining insurance coverage for his consulting company and a small laboratory. We will follow this issue closely and keep you informed of any new developments.

b) Accreditation of University Programs: The Canadian Society for Chemistry (CSC) approached the ACPO on the issue of joint accreditation. The ACPO believes that national standards should be established involving both the ACPO and the ACPA. Discussions are continuing

The Monnex Home and Automobile Insurance Program was endorsed by the board last fall. The contract between Monnex and ACPA will be signed April 12, 1996 in Edmonton.

Nesbitt-Burns, an investment company is preparing a package for ACPA members. Details to follow.

Please pay particular attention to this years AGM, scheduled for Saturday June 15, 1996 at the Shell Research Center in Calgary. Board members from Calgary have challenged members south of Red Deer (excluding Andy Schmidt), that

they will outnumber us at the AGM. Let's show those cow town chemists that we can take a challenge. Plan to attend the 1996 AGM in Calgary.

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**From the Editors**

All contributions from members to the newsletter will be welcome. Please send them to Robert Swingle at Chemex Labs 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 chemex@internode.net. It would be nice if you could send any lengthy material on disk in PC format using either Word Perfect or Microsoft Word.

**Editorial**

Sometimes editors just have to get on their high horse and editorialize. This is one of those times.

Over the years more and more controversy has been piling up in regard to methods used by laboratories across Canada to define hydrocarbons or "total petroleum hydrocarbon". Each jurisdiction seems to have it's own pet definition and no two pet definitions are exactly alike. Even within jurisdictions definitions can be confusing. Alberta, for examples, has (had) guidelines defining "total petroleum hydrocarbon" as total poreables plus total

extractables. At the same time total petroleum hydrocarbons were also defined as a subset of the "oil and grease" procedure. All of this, of course, has led to confusion on the part of the individual who doesn't understand what he is asking for and as a consequence results have been misinterpreted, or when two lab's results don't compare, a statement is made that the "labs don't know what they are doing". A prime example of this is the "headspace vs purge and trap" controversy. Another example is the problem that is occurring with the loss of freon as a solvent for use in the infrared determination of "total petroleum hydrocarbons" or oil and grease. The latter is just now rearing its ugly head with the fact that some jurisdictions are examining the use of alternate solvents without considering the consequences. A prime example is the consideration of the use of hexane for the extraction. The use of this solvent eliminates the direct use of IR and what is worse eliminates the finding of many hydrocarbons of note such as gasoline and gives erroneous results for heavier hydrocarbons. A recent study commissioned by Environment Canada carried out by Klohn-Crippen, for example, showed gasoline recoveries of 2.56 mg/L from a spiked solution containing 50.3 mg/L. The reason for this, of course, is obvious to a chemist but how many other professions would know that the results obtained from this method were not complete? Indeed, how many would know that the result obtained from any extractable method is solvent dependent? How many know that headspace and purge and trap methodology is matrix

dependent and that often the results obtained from the two techniques cannot often be compared reliably?

What, then, is all this leading to you may ask. Well, two things. First, as professional chemists, it is our responsibility to assist those we do analysis for and as part of that assistance we should provide interpretation of the results we deliver to them. We should be obliged to tell them of the limitations of the methods used and what one can expect from them. Today, it is not enough to just present the report after using the most expedient (read least expensive!) method to obtain the results required by the client. Second, we should insist on being part of the planning stages of programs where possible and provide professional advice to our clients or other-disciplined-colleagues so they also can understand the ramifications of any method used. It is no longer just good enough to present them with a number derived from any old method which suits us.

On the other hand, regulators and planners should be devising contracts and regulated methods which, to use the new buzz word, are Performance Based Methods (PBM). To use a definition being looked at by the methods committee of IAETL (International Association of Environmental and Testing Laboratories) a PBM is the following: A performance based method is a complete analytical method which addresses all requirements of the method's scope and the data quality objectives (DQO) for which the results will be used. Application

of the method requires conformation to only the critical elements deemed essential to meeting the DQO's. (The QA/QC requirements will be embedded in the DQO's). The rest of the procedure can be carried out by the laboratory's own protocols as long as the stated method performance is achieved. Procedures for determining and/or calculating performance characteristics (e.g. LOD, accuracy etc. ) would be given as required components. Data reporting requirements and minimum QA/QC would also be required components.

In the ideal world then, the professional chemist and the chemist's professional association (read ACPA!) act as advisors to engineers, biologists, other scientists and government departments and are treated as full partners in the environmental world. They help design performance based methods they can work with and supply chemical interpretation for environmental solutions. Achievement of this can only be through societies such as ACPA and therefore it is extremely important that maximum membership and recognition be achieved.

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## **MEMBERSHIPS**

### **Membership and Treasurer Updates**

As of March, 1996 we have received 160 applications for membership in the Association. Of that, 144 are members in good standing, 11 are outstanding and the remaining have either terminated their membership or have been rejected. The ACPA now has

members from British Columbia to Ontario.

**Financial Status**

Again, as of March, 1996 the bank balance was \$3940.44. Major expenses to date consist of mailing and printing costs, and cost associated with the POARA registration process.

**1996 ACPA membership dues**

Invoices for your 1996 ACPA membership dues were sent out the week of March 25, 1996. If you have not received yours to date, please contact the ACPA Treasurer, Jennie Wolter at 284-6557 during working hours to inquire. The invoice may have gotten lost or our records may need to be updated.

Annual fees for membership with the ACPA remain outstanding until written notification is received by the ACPA Registrar, Laurier Schramm, from any member wishing to terminate their membership. Members are listed as "Member in Poor Standing" in ACPA records until all outstanding dues are received. A current membership card and receipt for dues paid are issued by the ACPA Treasurer.

Dues from lost members are also considered in arrears as it is the responsibility of the member to inform the ACPA Registrar of any changes to their mailing address.

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**Awards  
Science Fair Winners**

Trevor Satchwill

This years winners of the ACPA Calgary Youth Science Fair prize are Noa Bronstein and David Steinberg of the Calgary Jewish Academy. Noa and David studied a topic near and dear to my heart in a project titled Water

Pollution. They measured and studied the water quality in the Bow river upstream, through and downstream of Calgary. Various surface water quality parameters were tested including pH, ammonia, nitrate, chlorine dissolved oxygen and silt. Based on these analyses, Noa and David quantified human agricultural and urban impacts on the Bow river.

In recognition of Noa and David's fine project, they were awarded keeper plaques and a gift certificate to Explorastore/Ahead of the Game.

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**The following article appeared in the Canadian Chemical News, February 1996 (CCN, Vol. 48, No 2, pages 42-43) and is reprinted with permission.**

Action Plan, November, 1995.

**2. Professional Status**

Legislation governing the licensing of professionals is a Provincial responsibility. Thus, if chemists are to be licensed as professionals in Canada, the body responsible for licensure must be Provincially based and identified in Provincial legislation. L'Ordre des Chimistes du Québec (OCQ) is the only such body in Canada at present, but the Association of the Chemical Profession of Ontario (ACPO) and the Association of the Chemical Profession of Alberta (ACPA) are seeking similar status. There appear to be insufficient number of chemists in most other Canadian Provinces to warrant the establishment of additional separate Provincial licensing bodies. Moreover, it appears that provincial governments are not particularly receptive to establishing more professional associations which require licensing.

The need for the protection of the professional status of chemists and other natural scientists has been brought into sharp focus as a result of recent attempts by several Provincial Associations of Professional Engineers to redefine the practice of engineering. The new definitions would include responsibilities for many of the jobs which should be done by persons trained specifically in the natural sciences. The CSC and other natural science societies have made representations to the governments of those Provinces in which such redefinitions of the practice of engineering have been advanced. So far no new legislation has been passed which would have the effect of restricting the practice of chemistry by chemists, or of natural science by scientists in other disciplines. Moreover, the Natural Science Societies of Canada, of which the CSC is a member, and the Canadian Council of Professional Engineers have now reached an agreement on an exemption clause to protect the interest of natural scientist so that engineering acts throughout Canada do not unintentionally restrict the practice of natural scientists. Members of the CSC will be glad to learn that this exemption clause specifically identifies the chemical sciences. Despite these positive developments, the need for stronger means of protecting the interests of practicing natural scientists is now apparent. Provincial governments will not automatically include the exemption clause when revising their Engineering Acts; proactive efforts to urge the provincial engineering associations and governments to do so will be required.

The CSC is undertaking the following actions to protect the interests of its members:

i. As a pilot project, the CSC has initiated discussions with the ACPO to find areas in which the CSC and ACPO could cooperate. The CSC has proposed formally that the CSC and ACPO develop procedures which will permit practicing professional chemists in Ontario to become members of both organizations with no additional formal qualification and a minimum of additional paperwork. The CSC has proposed that the CSC and ACPO develop joint procedures for accreditation of post-secondary educational programs in Ontario universities and colleges. The CSC has also asked that the ACPO consider identifying short courses under the auspices of the CSC as one means of providing continuing education and professional upgrading for ACPO members. A joint statement of intent is being developed. Similar discussions with the OCQ and the ACPA are planned. (CSC President)

ii. Mechanisms for helping chemists protect their rights to practice their science, and to achieve professional status when possible, are still in the early stages of development. Cost in this area could become substantial, and the CSC is in no position at present to cover even the most modest legal or other professional fees. From an organizational perspective, the CSC proposes to deal with this important area by establishing a Professional Affairs Committee. It is proposed that this Committee be chaired by the CSC Director responsible for the professional affairs portfolio, and report to the Board on a regular basis. Members would be drawn from the Atlantic, Quebec, Ontario and Western regions of

the country. The Quebec representative would provide liaison with the OCQ, and the Ontario representative would do the same with the ACPO. A subcommittee structure would permit input from the other Provinces and Territories to their Atlantic and Western representatives. Local Sections would be involved in nominating/appointing/electing members to the committee and its subcommittees. Other members of the Professional Affairs Committee would include a representative from the CSC Accreditation Committee and a person responsible for liaison with the other natural science societies. This Committee will be put in place in 1996. (CSC Directors for Professional Affairs and, in future, Regional Directors)

iii. Through the new Professional Affairs Committee, the CSC will assist in monitoring proposed changes in Provincial legislation which have the potential to affect the ability of chemists to practice their profession. The CSC will exert its influence to ensure that chemists can continue their work, unobstructed by adverse Provincial legislation. In the meantime Local Section Executives have been given the tasks of monitoring proposed changes to Provincial legislation which might affect the chemists, and of seeking assistance of the Society when required. (CSC President, Directors for Professional Affairs, Local Sections)

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**The following article appeared in the Canadian Chemical News, January 1996 (CCN Vol. 48, No 1, page 13) and is reprinted with permission.**

Scientists and Engineers Agree to Exclusion Clause

The Canadian Council for Professional Engineers (CCPE) representing the twelve professional engineering associations in Canada, and the Natural Sciences Societies of Canada (NSSC) representing thirteen natural science societies in Canada have reached an agreement on an exemption clause to protect the interests of natural scientists, so that engineering acts throughout Canada do not unintentionally restrict the practice of natural scientists.

To encourage national standardization and facilitate mobility for professional engineers, the CCPE developed a national guideline for the Definition of the practice of Professional Engineering in 1992. The CCPE Definition states:

*The practice of professional engineering means any act of planning, designing, composing, evaluating, advising, reporting, directing or supervising, or managing of the foregoing that requires the application of engineering principles, and that concerns the safeguarding of life, health, property, economic interests, the public welfare of the environment.*

The Natural Scientist Exemption Clause reads:

*Nothing in this Act shall prevent an individual who either*

*(i). holds a recognized honours or higher degree in one or more of the physical, chemical, life, computer or mathematical sciences, or who possesses an equivalent combination of education, training, and experience, or*

*(ii). is acting under the direct supervision and control of an individual described in the*

*preceding paragraph, from practicing natural science, which for the purpose of this Act, means any act (including management) requiring the application of scientific principles, competently performed.*

This is similar to the exclusion clauses already in use in many Canadian Engineering Acts to recognize overlapping professions such as architecture, land surveying and forestry.

In 1993 discussions between representatives of CCPE and NSSC were convened to address concern raised by NSSC over the CCPE national Definition of Practice of Professional Engineering. NSSC is a group of major Canadian scientific societies having a total membership in excess of 25,000. One of the main reasons for NSSC's formation was concern by the scientific community over the possibility that the CCPE Definition could be interpreted to cover aspects of the practice of natural sciences and could therefore unintentionally restrict that practice.

The concern was brought to the attention of a wide range of interested parties across Canada, and CCPE and NSSC are now pleased to announce a mutually accepted resolution of this issue, resulting from ongoing negotiations over the last two years.

In recognition of the overlap between the legitimate practices of professional engineering and natural science, and to clarify that the CCPE Definition does not cover the practice of natural science, NSSC and CCPE now recommend that the above exclusion clause be included in any legislation that uses the CCPE Definition or any other

definition of the Practice of Professional Engineering.

CCPE is modifying its National Guideline for the Definition of the Practice of Professional Engineering to recommend the inclusion of this separate, accompanying exclusion clause to the practice of natural science, for use in all future amendments to relevant legislation.

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**The following article appeared in the Winter 1995 issue of ACPO newsletter, The Distillate and is reprinted here with permission**

#### **Comments on Licensure,**

by George Brown, MCIC,  
C Chem

The ACPO (Association of the Chemical Profession of Ontario) is striving to become a regulatory body through the legislative right to practice. A license to practice chemistry will give chemical professionals greater responsibilities in protecting human health and the environment. These increased responsibilities create added liabilities for professionals who practice chemistry as well as the Association which sets professional standards.

Standards define the quality of the profession. The designation C. Chem is reflection of this standard. In order to insure that chemical professionals are proud to use C. Chem and to minimize liability, standards must be at least on par with the standards of other professionals. If the ACPO expects to develop the chemical profession, the Association must make the designation C. Chem recognized and respected throughout industry.

To achieve this goal, the Association must become Best-

of-Breed and exceed the standards set by other professions. This objective is attained by adding breadth as well as depth to the skill set of our future members. Also part of our responsibilities will be the accreditation of professional educational programs.

The Canadian Society for Chemistry (CSC) has approached the ACPO with an offer to participate in accrediting Ontario universities with chemistry programs. On the surface, this proposal appears to be an efficient vehicle to set standards. However, further investigation suggests that accreditation, especially through the CSC, does not seem to be effective.

There are 17 chartered universities in Ontario which teach chemistry. Of these 17, only 8 chemistry departments have unconditional accreditation by the CSC (CCN, Vol. 47, No 9, pg. 41-42). This situation begs the question, why have important universities like U of T, Queens, McMaster, Trent and U of Ottawa, actively chosen to allow their CSC accreditation to lapse? Do these universities think the CSC standards are not valid or relevant, and how will ACPO involvement be viewed?

These are important questions which should be addressed before the ACPO enters into this long-term strategic relationship with the CSC.

The CIC has seen its membership from about 13,000 to approximately 6,000 during the last 25 years or so. The CIC is now divided into functional interest groups called Divisions and geographic locations called Local Sections. In business this structure is called a Matrix. The matrix structure is rarely used because it is difficult to coordinate, communicate and administrate the objectives of the

organization within this structure. A matrix, by its very nature, categorizes and isolates members.

To overcome these hurdles, CSC operational costs consume much of the organization's revenue. Consequently, the CSC continues to lose money (CCN, Vol. 47, No. 4, pg. 41.).

With the likelihood that financial declines and organizational paralysis will continue, does the ACPO want to enter into a strategic relationship with such an inflexible organization?

There are learned societies, such as the Pharmaceutical Sciences Group, the Clinical Chemists, and the Occupational Hygienists which have synergy's with the ACPO. The Association should consider developing alliances with these other professional organizations.

According to the ACPO's Code of Ethics, members have a duty to respect other colleagues. Alberta has the third largest population of chemists in Canada. Our sister organization, The Association of the Chemical Profession of Alberta (ACPA), will likely obtain the legal right to title within two years. This milestone will place the ACPA in par with the ACPO.

However, the CSC has not approached the ACPA on accrediting universities in western Canada. By not including the ACPA in this process, we are creating inconsistent professional standards across the country. This oversight will have long-term implications on the movement of chemical professionals across Canada.

For chemical professionals in the environmental field, the exclusion of the ACPA has an even greater impact. The Canadian Council for Human Resources in the Environmental Industry (CCHREI) is located in

Calgary. CCHREI oversees the Canadian Environmental Certification and Accreditation Board (CECAB). CECAB is recognized by all environmental professionals as the umbrella organization which will certify associations like the ACPO. This certification endows professional associations with the nationally recognized right to accredit their members.

If the ACPO and CSC join forces to accredit environmental chemists, which organization will CECAB certify? If the ACPO chooses to share or give this certification to the CSC, does this decision impact the ACPA and their standards for CECAB certification?

When the ACPO and the ACPA achieve the right to license, both organizations have to communicate with each other on disciplinary procedures and other professional matters. Will the ACPO be abdicating its interprovincial responsibilities in this new relationship with the CSC?

The success of the ACPO will be determined on the standards the Association places on the profession. The only objective method to determine what technical and professional skills are important is to talk with members who deal with human health and environmental issues. The ACPO must build a solid foundation for long term growth.

For these reasons, I recommend the following process:

1. Meet with experienced members in the areas of chemical profession which the Association defines as important. These members, being technically proficient, can determine the critical skills necessary to protect human health and environment. Allowing members to participate in steering the Association is a

healthy step. Involvement builds consensus and commitment to the Association.

2. Meet with companies within the chemical industry. By introducing ourselves and asking companies what professional skills are important to them, we are improving the marketability of the Association. the largest barrier to our organization is the lack of public awareness.

Knowing what skills a company looks for in a chemical professional will help in the development of future members.

3. Finally, hold an entrance exam based on the information developed in steps one and two. The objects of the Association clearly allow for such exams. Bill Pr9 reads as follows "to hold such examinations and prescribe such tests of competency as Council considers appropriate to qualify for admission...".

The ongoing budget cuts to education will have an effect on the setting of ACPO standards in Ontario universities. Like hospitals, universities could close. In this situation, is accreditation the only vehicle which should be considered? In the world today, other professional organizations which license chemists set entrance exams. There is good reason for an examination. setting entrance exams allows for the professional flexibility without forcing chemistry departments to dramatically change their curriculum.

The setting of standards and accreditation of universities is a complex and multifaceted issue. The direction which the Association takes today will impact the future of our members. The pros and cons of this major step should be

weighed before we dive into this relationship.

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**Call for Nominations**

**ACPA 1996/7 Board of Directors**

There are ten board positions on the ACPA Board of Directors. All positions come up for election each year. The election itself is held by mail ballot. To nominate someone, all you have to is to secure the person's agreement to serve and forward his or her name to the nominating committee. If you would like to be nominated, please contact the committee directly. Ballots will be mailed out and the election results announced at

the Annual General Meeting this June.

**The positions are:**

- President
- Vice-President
- Secretary
- Treasurer
- 6 Directors-at-large

Forward your nominations by April 30, 1996 to:  
 CEDA Environmental Services  
 P.O. Box 3009  
 Sherwood Park, AB  
 T8A 2A6  
 Attention: Mr. Murray D. Fetzko  
 ACPA Secretary  
 Phone: (403) 472-6766  
 FAX: (403) 472-6958

**The deadline for nominations is April 30, 1996**

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**1996 Annual General Meeting announcement**

This year the AGM will be held in Calgary at the Shell Research Center.

**Date:** Saturday, June 15, 1996

**Time:** 1:00 P.M.

**Location:** Shell Research Center  
 3655 36 Street NW  
 Calgary

Parking will be available in front of the building and the room location will be posted inside.

**ACPA Officers and Directors**

NAME	POSITION	LOCATION
David Armstrong	Dir-at-large	Calgary
Frank Bachelor	Past President	Calgary
Detlaf Birkholz	Vice-President	Edmonton
Arthur Bollo-Kamara	President	Edmonton
Kevin Dunn	Dir-at-large	Calgary
Murray Fetzko	Secretary	Edmonton
Trevor Satchwill	Dir-at-large	Calgary
Andy Schmidt	Dir-at-large	Red Deer
Laurier Schramm	Registrar	Calgary
Jennie Wolter	Treasurer	Calgary