THE MANITOBA
# Professional Engineer
December, 1993
APEM

# UN Engineers Attempt to Rebuild Haiti

*By: Lieutenant Colonel Brian R. King, CD, P.Eng.*

On September 23, 1993 the Security Council of the United Nations approved Resolution #387 which authorized the deployment of a 500-person multi-national military construction engineering force to Haiti. The unit would carry out construction projects relevant to nation-building to benefit the civilian population, specifically in the areas of school and hospital reconstruction, well drilling, road repair and the conversion of military barracks to civilian housing units.

The Canadian Deputy Chief of Defence Staff – Vice Admiral L.E. Murray, OMM, CD – appointed Lieutenant Colonel Brian R. King, CD, P.Eng. of Air Command Headquarters of Winnipeg as the Canadian Contingent Commander, responsible for the command of all Canadians to be deployed to Haiti. King was also appointed as the United Nations Engineer Element Commander, commanding all multi-national engineers in Haiti. The engineer element comprised 105 U.S. Navy, 110 Canadian Air Force, and 85 U.S. Marine tradespersons and engineers. The engineering construction unit was trained and equipped to perform a wide variety of engineering tasks, including all forms of structural construction, mechanical rebuilds of utility systems and power generation units, well drilling and road repair.



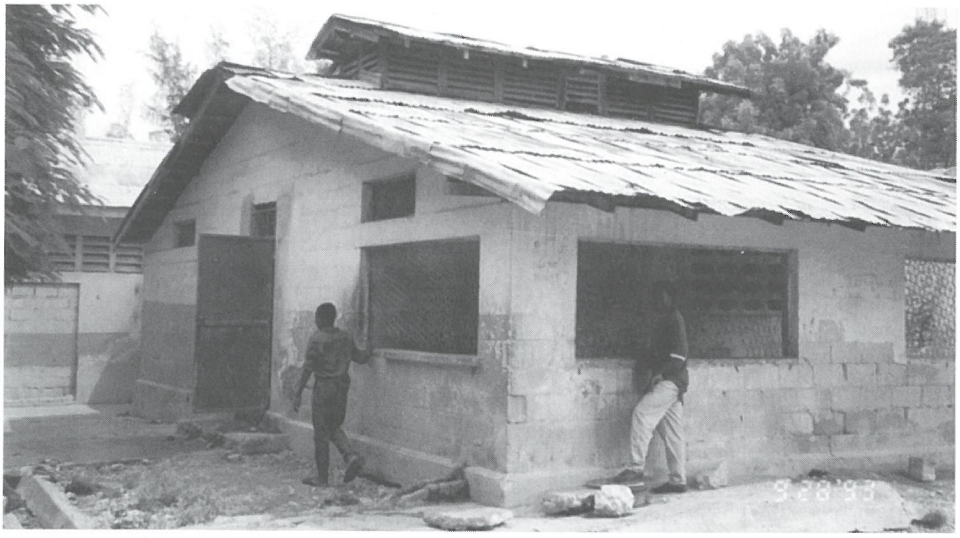
*LCol. Brian King*

The Canadian Air Force engineering unit was composed of two 35-person Air Force Construction Engineering Flights, from 18 Wing Edmonton and 8 Wing Trenton. In addition to these two production flights, a design and engineering section from 1 Construction Engineering Unit (1CEU), Winnipeg, and various support personnel from Air Force Wings across Canada formed the Canadian Contingent. This unit, besides being employed full-time on the various Wings, is also fully equipped and forms part of a ready air deployable rapid engineering response capability. This capability has been tasked for a variety of projects, including the reconstruction of two schools in Dey County, Florida following their destruction as a result of Hurricane Andrew.

The projects to be implemented in Haiti were to be determined by LCol Brian King, his staff and the Haitian Government. These projects were to provide the Haitian military and civilians with on-the-job training in relevant construction and engineering skills.

During the first visit to Haiti in September, meetings were arranged with the Ministers of Public Works, Defence, Finance and Justice to discuss project opportunities and the site for the UN tent camp. The UN personnel would be constructing a 750-person tent camp complete with a 20-person hospital, eating and sleeping areas and a helicopter landing area for the complete six-month period, as there were no existing facilities that could be utilized. As a result of continuing negotiations, a site was approved and a primary list of nine projects, including seven schools and two hospital reconstructions, was agreed upon.

Work for these projects involved extensive roof repairs, interior surface and structural upgrades, and replacement of mechanical systems. The schools had no water hookups or operational washroom facilities. Students and staff



*Unfinished school in use for 15 years. Sanitary wastes drain on ground at corner.*

Continued on page 10

Season's Greetings from the A.P.E.M. Staff

THE MANITOBA
Professional Engineer

**December, 1993**

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Opinions expressed are not necessarily those held by the APEM or the Council of the APEM

APEM

## WE HAVE LOST CONTACT. MAY WE HAVE AN ADDRESS?




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E.S. Younan

# Attention, Non-Practising Members!

*By: S.M. Matile, P.Eng.*

By the time you read this article, the proposed By-Law revisions will have been voted upon by the membership.

If the By-Law changes are approved, the non-practising category of membership will no longer exist, effective December 31, 1993.

PLEASE REVIEW, CAREFULLY, THE INFORMATION CIRCULATED WITH YOUR ANNUAL DUES.

### Non-resident Members

Non-resident members now in the non-practising category may continue in the non-resident category until they resume the practice of engineering in Manitoba or resign.

This category of membership is no longer available to other APEM members.

The non-resident annual dues will be the same as the dues for retired membership.

### Retired Members

If the By-Law revisions are approved, members now in the non-practising category who are retired from the workforce must decide whether to return to the practising category of membership or to select the new retired membership.

Non-practising members who are retired and who wish to retain the right to practise engineering at some point in the future should return to the practising category of membership. This can be done simply by paying full membership dues for 1994 (by February 28, 1994 without penalty, or by June 30, 1994 with late payment penalty).

AFTER JUNE 30, 1994, THE RETURN TO FULL PRACTISING MEMBERSHIP WILL REQUIRE THE COMPLETION OF APEM'S PROFESSIONAL PRACTICE EXAMINATION AND DEMONSTRATION OF TWO YEARS' ACCEPTABLE ENGINEERING WORK EXPERIENCE DURING THE PAST SIX YEARS.

Non-practising members who are retired and who have no intention of returning to the practice of engineering may opt for retired membership, by paying the retired membership dues for 1994 by December 31, 1993, certifying that they are not practising engineering and have no intention of doing so, and discontinuing the use of the seal and of the designation "P.Eng." Retired members may use the designation "P.Eng.(Ret.)" (This designation, we have been advised, will not disqualify retired engineers from serving as passport guarantors.)

### Non-practising Student and Unemployed Members

If the By-Law revisions are approved, persons in the non-practising category of membership who do not qualify for retired membership and who are not currently non-resident members will be required either to return to full practising status or to resign.

Persons wishing to return to full practising status may qualify for dues deferral (please refer to Council's Policy for Deferral of Annual Dues which was circulated with the proposed By-Law changes). □

## NEW MEMBERS REGISTERED SEPTEMBER & OCTOBER, 1993

R. Adhikary
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A. Amsterdam
R.J. Babcock
J.C. Beattie
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A. Tring
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T.J. Zitkus

## LICENCES ISSUED IN SEPTEMBER & OCTOBER, 1993

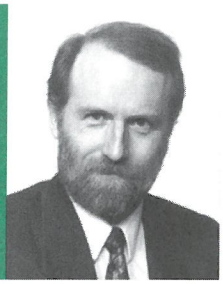
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K.G. Blakely (PQ)
E.L. Doherty (AB)
T.A. Douglass (NB)
F.G. Driedger (AB)
M.D. Gallant (ON)
T.C. Greenlaw (MA)
D.C. Hind (ON)
T.C.W. Ip (ON)
R.E. McCallum (AB)
R.D. Mons (ON)
L.M. Paley (SK)
G.A. Palichuk (ON)
P. Papanikolas (AB)
G.G. Powell (ON)
R.J. Reichert (SK)
M.G. Renaud (PQ)
E.L. Shemansky (ON)
R.J. Smyth (AB)
J.A. Wilson (KS)

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P.J. Buller
N.E. Bradley
S.E. Egland
R.M. Elder
A.M. Faurshou
R.S. Forgie
R.W. Johnson
B.J. Mitchell
R.J. Ostrowski
K.R. Parson
J.A. Plaxton
M.C. Poole
M.N. Stainton
T.N. Turner

## President's Message

Dr. D.G. Chapman, P.Eng.



# Back to Basics

In the two years I have spent on Council, I have seen several major initiatives, which affect the way the APEM does its business, make their way through committees and Council. Many of these initiatives will be implemented in the coming year – which should be a very interesting year.

The APEM is making a major investment in computer hardware and software. With the help of a very effective consultant, a specification has been prepared and should have been released by the time this message appears. The computer system should lead to an increase in the efficiency of the office operations and should improve the service we provide to the public and our members. It will also allow the APEM to determine easily the cost of each function undertaken by staff and committees.

**"Consistent with most other provincial associations, the APEM will be going to a four-year experience requirement, effective January 1, 1995."**

In talking to members, I am aware that many are not completely familiar with the significance of membership in a self-governing profession and how that professional association operates. The core responsibilities of the APEM are those of registration, act enforcement and discipline. Major changes in the areas of registration and act enforcement are anticipated in the coming year.

Council recently adopted in principle revised admission standards and a new Board of Examiners' manual. Council will soon be asked to consider a further revision to the admissions process which will involve delegation of registration approval to a new Registration Board. This change, if adopted, will result in Council being a true appeal body for those applicants who are refused registration. At present, Council may reject an application and then be asked to hear an appeal on that same rejection.

Consistent with most other provincial associations, the APEM will be going to a four-year experience requirement, effective January 1, 1995. In the coming year, details of the support programs for this change will be finalized. These include an enhanced EIT program and a new, closed-book Professional Practice exam. Details of the "Grandfathering" provisions for applicants for registration and EIT members who will not be registered by the transition date are being finalized, and should be announced shortly.

It is also planned to change the role of the Admissions Review Board from that of one which provides advice to the Registrar regarding the evaluation of the work experience of a small number of unusual cases to that of providing a recommendation to the Registration Board on the work experience record of every applicant.

It is believed that such changes in our admissions procedures will maintain admissions standards, while ensuring consistency and fairness in the consideration of applications.

Increases in staff work-load over the past few years have led to a reduction in the time devoted to act enforcement – the process of ensuring that only registered engineers are performing engineering work and that the title of Professional Engineer is not misused. Act enforcement is distinct from the discipline process which applies only to APEM members and licensees. At the October Council meeting, Council endorsed the establishment of an Enforcement Committee, to take on act enforcement activities.

Once the committee is established, we expect to see an increase in the proportion of APEM dues spent on legal assistance. As a self-governing profession it is our responsibility to prosecute where necessary, as the Crown does not prosecute on our behalf. To minimize the impact on dues, Council will have to look for economies in other areas of operation. The changes the Association is considering to the operation of committees in the registration and enforcement areas represent important first steps in the re-examination of the whole committee and task force structure within the APEM. It is hoped that this re-examination will lead to changes in committee operations and to cost savings.

Over the next year I hope to increase awareness of those responsibilities and of the work done in the areas of registration, discipline and act enforcement by volunteer committees and the APEM staff and to focus Council and the resources of the Association on matters which are fundamental to its mandate. I welcome your feedback. □

# Notice

## Payment of Your 1994 Annual Fees

Membership fee invoices have been mailed to all members. If you have not received yours, please contact the APEM office. Please be reminded that, according to the By-Laws, **THE ANNUAL MEMBERSHIP FEES ARE DUE AND PAYABLE BEFORE JANUARY 1, 1994.**

For those members no longer practising in Manitoba, and wishing to resign in good standing, letters of **RESIGNATION** of membership must be received in the Association office **ON OR BEFORE DECEMBER 31, 1993.**

Applications to **RENEW NON-RESIDENT** membership, or to **TRANSFER TO OR RENEW RETIRED** membership must be received in the Association office **ON OR BEFORE DECEMBER 31, 1993.**

Members who are unemployed may qualify for deferral of dues. The notice accompanying the invoice provides details of eligibility.

# Letter to the Editor

I read with interest Mr. Anderson's message in the August issue. I believe that his points should be embraced. It is partially through attention to small details that the "big picture" can be changed. If we really want to change the image of engineers from "men" who drink beer, smoke cigars, etc., then perhaps it should be considered inappropriate that our newsletter publishes a picture of new members holding, most likely, glasses of beer. It wouldn't have taken long to have them put their beverages down.

*J.J. Linnen, P.Eng.*

# Manitoba Engineering Day Recognized at 1994 CSCE Conference

*By: G. Morris, P.Eng.*

The 1994 Annual Conference of the Canadian Society for Civil Engineering (CSCE) will be held in Winnipeg from Wednesday, June 1 to Saturday, June 4, 1994. Organizers plan to use the conference as an opportunity to showcase Manitoba engineering and therefore have designated Thursday, June 2 as Manitoba Engineering Day. Premier Gary Filmon, P.Eng. has been invited to kick off the day's activities with a Keynote Address, to be followed by technical sessions in which Manitoba engineering organizations will present case studies on current or recently completed projects. There will be a luncheon, with a guest speaker yet to be named, and the day will conclude with a riverboat cruise complete with dinner and entertainment.

Two specialty conferences – the 1994 CSCE Environmental Conference and the 1994 CSCE Engineering Mechanics Symposium – will be held in conjunction with the Annual Conference. Information on all three of the conferences can be obtained by contacting Glenn Morris, phone 474-9156 or FAX 261-9534. □

## Space Technology in Canada:

# Iniatives, Challenges and Opportunities

*By: B.A.K. Danielson, P.Eng.*

Despite last-minute technical difficulties, Dr. Gilles Leclerc, ing., a Project Manager in the Space Technology Section of the Canadian Space Agency (CSA), gave an interesting overview of the Canadian space industry at the Annual General Meeting Breakfast on October 23, 1993. (In regard to the technical difficulties, his first comment was directed at those people who regularly carry diskettes around in their pockets: avoid airport security systems!)



*Dr. Gilles Leclerc*

Dr. Leclerc began his presentation by pointing out that engineering is the second oldest profession and is ideally suited to the space industry. Close to 100 Canadian companies are currently involved in space-related fields. The CSA is the center of the space program and works in conjunction with the private sector, universities, research centers and foreign and international organizations. The scope of activities fostered by the CSA ranges from fundamental to applied research, including development and production of specific hardware and equipment, operations and services, the analysis and processing of data, and pure research to advance our knowledge in all areas of science.

There are approximately 3,000 people working in the Canadian space industry, most of them engineers. There is a rising demand for qualified engineers with experience in a diversity of fields for careers that demand ingenuity, an inquisitive mind, creative abilities, diligence and an affinity for problem-solving.

Canadians today enjoy one of the most sophisticated telecommunications services in the world, due to our involvement in the development of space. Atmospheric research has led Canadian scientists to a world-wide reputation of excellence in the field of space science. Telecommunications satellites are an integral part of our daily lives which permit such activities as the regular and simultaneous printing of newspapers in different major cities, bank transaction recording, audio and video communications around the globe and locating downed aircraft.

The development of advanced technology for space applications is a central function of the CSA, which supports the planning and development of major new projects and provides technical advice and support to existing projects. Over the next five years, $14.5 million will be allocated to a fund which will be used to develop Canadian R&D skills in space technology.

Another area in which Canada is a world leader is remote sensing. Earth observation from space enhances meteorology, natural resource management, navigation and the charting of ice floe movement. RADARSAT is the first Canadian earth observation satellite and part of a new generation of remote sensing satellites. Radar-based sensing is a significant improvement over optically-based systems, and the technology of RADARSAT puts Canada in the lead with respect to the remote-sensing market.

This country's commitment to robotics led to the development of the Canadarm and placed Canada in a world-leading position in the field. The Canadarm is used to unload satellites or retrieve them and has helped astronauts stay in position to repair orbiting satellites. The CSA is now collaborating with Japan, Europe and the U.S. to build a permanently manned international space station. Canadian technology responsible for the Canadarm will provide the Mobile Servicing System (MSS), a roving space robot which will aid in station assembly and maintenance.

Another area of expertise for Canada is space science, encompassing the study of the universe, the solar system, the near-earth environment and the physical and biological processes which occur in space. The space science program comprises four main areas: space plasma physics; upper atmosphere chemistry and physics; space astronomy; and micro-gravity science. Canada's involvement in space science has recently expanded to include international programs, and the CSA's Space Science Program is an outstanding example of international co-operation as most projects are carried out in conjunction with one or more international partners. The CSA launched its first micro-gravity rocket in 1992 in order to study the processes and behaviour of materials in a micro-gravity environment. Micro-gravity studies are divided into two main areas: material sciences and life sciences. The studies relating to life science are devoted to human physiology, gravitational biology and bio-technology research in micro-gravity. This research is important in light of the hope for a permanently manned space station by the end of this decade.

In 1983, six astronauts were selected from a pool of over 4300 applicants. Last year, another four were chosen from more than 5000 candidates. Two of the original six have retired and each of the remaining eight aspires to a flight opportunity. In the past, Canadian astronauts have been trained as payload specialists who conduct research in micro-gravity environments but have not had mission responsibilities. Recently two of Canada's astronauts began training as mission specialists, i.e., astronauts having responsibility for the operation of orbiter systems during spaceflight.

At the end of this most informative presentation which highlighted some of the activities of the Canadian Space Agency, Dr. Leclerc was presented with a gift of appreciation on behalf of the Association which could not, he was assured, be destroyed by any airport security systems! A copy of Dr. Leclerc's presentation, which provides more complete details about many of the CSA's projects, is available from the Association office. □

# Attention, EIT Members!

*By: S.M. Matile, P.Eng.*

By the time you read this article, the proposed By-Law revisions will have been voted upon by the membership.

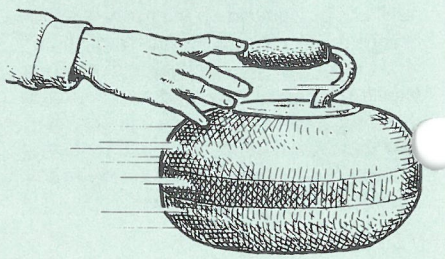
Please note that, if the By-Law changes are approved, there will be new regulations in place for the payment of dues by EIT members. The EIT dues for 1994 ($40) will be payable on or before December 31, 1993. For dues received after February 28 and on or before June 30, 1994, an additional $50 late-payment fee will be assessed; and after June 30, 1994, non-payment of dues will result in the cancellation of your membership.

You will be receiving an invoice, shortly. Avoid the late-payment penalty by ensuring that your $40 dues have been received **by** February 28, 1994. □

# Attention Curlers!

The next Annual APEM Curling Bonspiel will be held on Tuesday, January 11, 1994, at The Granite Curling Club. Details to follow.

**Mark your calendars now!**



# Wine and Cheese Reception

*By: J.W. Bogan, P.Eng.*

The Association of Professional Engineers held its Annual Wine and Cheese Reception on Friday, October 22. The Association organizes the event to show its appreciation for the volunteers who participate in association committees and the individuals who help support the volunteers.

This year's event was held at the Holiday Inn Crowne Plaza Ballroom. Many members of APEM committees, representatives from the Manitoba Association of Architects, the Association of Manitoba Land Surveyors, the Manitoba Society of Certified Engineering Technicians and Technologists and the Dean of Engineering, the University of Manitoba were welcomed during the course of the event.

As part of the evening's program, several APEM Scholarships were presented. The awards and their recipients were:

**Highest Standing in First Year Engineering:** Erh Chang Siow

**Highest Standing in Second Year Engineering:** Shannon Joyce Trask

**Highest Standing in Third Year Engineering**

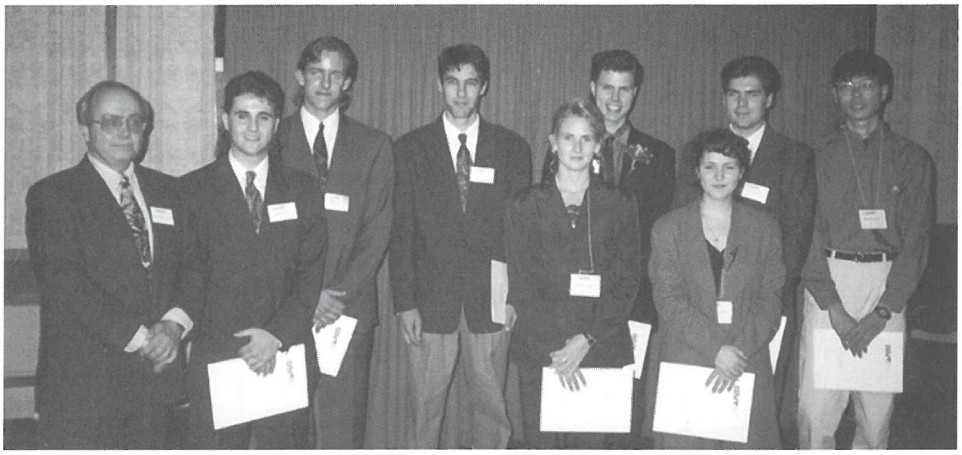
| | |
|---|---|
| Mechanical | Robert Michael Marko |
| Agricultural/ Geological | David Arlen Epp |
| Computer/ Industrial | Michelle Lynn Boissoneault |
| Civil | Robert Stanley Black |
| Electrical | Kevin Preboy |

The Canada Northlands Development Award was presented to Joel Jonathan Wortley in recognition of his work in and around the Churchill area.

Congratulations were expressed to each of the award recipients for their achievements.

A gift was presented to Marilyn Anderson for her support and patience with the President's time-consuming role during the past year.

All enjoyed a friendly evening and the opportunity to renew acquaintances with other committee members, as well as meet new volunteers and award winners. □



*President Carl Anderson with Scholarship Winners.*

# Annual Awards Banquet

*By: W.G. McKay, P.Eng.*

It had been some time since the Association held an awards presentation during a banquet event. Hence, on the evening of the Annual General Meeting, it was a pleasant gathering of some 100 persons at the Carlton Club.

Following the reception and an enjoyable dinner, the awards commenced. The award winners had been previously announced on the cover page of the October Manitoba Professional Engineer.

The Outstanding Service Award recipient was Past-President Ken Buhr, who has given many years of service to the Association through his various committee and Council activities.

Rudy Isaak was the other Outstanding Service Awardee, having been the President 12 years ago and likewise having given many years of service.

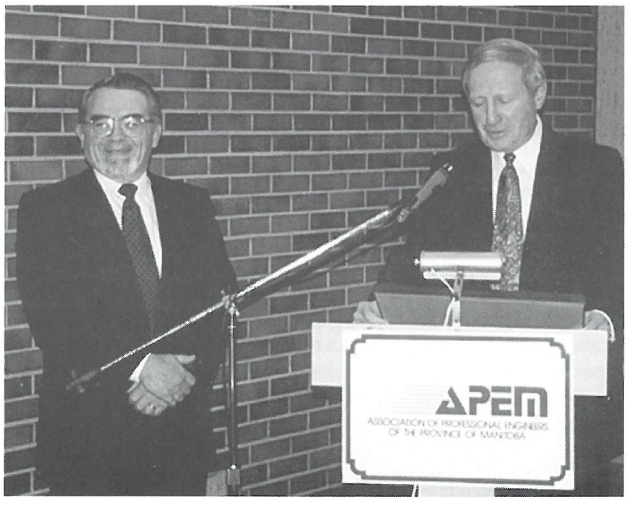
Ken Jardine, President 11 years ago, and after many years of committee service and having retired from active practice, was presented with APEM's Honourary Life Membership.

Providing a relaxed background throughout the evening were a violinist and a guitarist. Following a most enjoyable dinner, Magician Brian Glow baffled and confused the audience with his slight of hand.

It was a pleasant evening, topped off by a Blue Jay victory! □



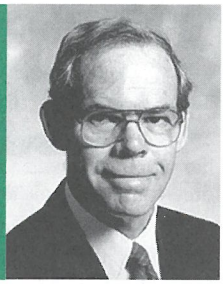



*Bill McDonald presents the Outstanding Service Award to Ken Buhr (above) and Rudy Isaak (upper right), and the Honourary Life Membership Award to Ken Jardine.*

## CCPE President's Message

Dr. Robert E. Burridge, P.Eng.



# Transferability of Professional Engineering Registration in Canada

The regulation of the practice of engineering in Canada is delegated, through private or public acts in the 10 provinces and two territories, to the respective Associations/Ordre of Professional Engineers. Generally, these Acts convey to Associations/Ordre the power to register qualified members, to discipline registered members as required, and to take appropriate action against those who attempt to practise engineering without registration. These are the fundamental elements of self-governance. The over-riding concern of governments and the profession is that the practice of engineering be regulated fairly and honestly to ensure that a high quality of engineering practice is maintained in the interest of public safety and well-being.

Although the regulation of our profession is a provincial/territorial responsibility, it was recognized by our predecessors early on that there is an over-arching national interest and responsibility which must be served. Thus a model act on which our original provincial acts were based was developed by the Engineering Institute of Canada and led to very similar Acts being passed in our provinces and territories beginning in 1920. In 1936, "The Dominion Council of the Associations and Corporation of Professional Engineers" (predecessor of the CCPE) was formed to formally establish a common bond among provincial associations and to assist them to meet their common needs. In 1965, the Canadian Accreditation Board (now CEAB) was set up as a standing Board of the CCPE with the responsibility to accredit undergraduate engineering programs for the purpose of professional registration of their graduates. Thus, a national system was established to assess and determine the suitability of engineering programs for fulfilling the academic education requirement for professional registration anywhere and everywhere in our country.

In 1986, a further major step was taken toward national commonality with the establishment of the Canadian Engineering Qualifications Board (CEQB) with broad terms of reference embracing all matters relating to professional qualifications. These include guidelines for admission standards; the provision of a uniform Syllabus of Examinations for candidates from non-CEAB-accredited or-recognized institutions; guidelines for the evaluation of engineering experience; determination of the equivalency and acceptability of registration systems in other countries with a view to negotiating mutual recognition agreements with those countries; and many other related issues. The CEQB monitors, reviews and provides recommendations on a number of CCPE guidelines related to professional qualifications and practice.

The principal raison d'etre of the CCPE and its committees and boards is the commitment of engineers in Canada to common high standards of practice in our country. This implies similar admission standards and experience requirements as well as rigorous act enforcement in all jurisdictions. An important corollary of this commonality is the relatively free mobility of professional engineers from one jurisdiction to another, and this issue has been given a high priority by the CEQB in recent years. In 1991, a task force was established to examine, in co-operation with constituent associations/ordre, the real barriers to transferability of registration. The task force report and recommendations were the major topic of a joint meeting of CEAB, CEQB and admission officials from across the country in the Spring of 1992, in which discussions were held and actions recommended on the identified barriers to transferability. Among the dozen or so barriers identified by the task force, four were considered to be of particular concern: experience requirements (quality and length), acceptance of non-CEAB academic qualifications, residency and citizenship requirements and the Professional Practice Examination. The CEQB moved quickly to address these issues, establishing two task forces to draft expanded criteria for the admissions guideline: one concerned with non-CEAB academic qualifications and the other with acceptable engineering experience. The other major issues are being addressed through inter-association consultation and a CCPE guideline on the Professional Practice Examination.

It needs to be emphasized that relatively free inter-provincial/territorial mobility is not a distant

*Continued on page 7*

# The Annual General Meeting – October 23, 1993

*By: W.G. McKay, P.Eng.*

Following the breakfast meeting and having achieved the necessary quorum, the Annual General Meeting commenced at 10:00 a.m. with President Carl Anderson at the centre of head table. All councillors were present with the exception of the appointed councillor Gail Fyfe and councillor Cathy Stewart of Thompson, who in the past missed very few Council meetings.

Following the recognition of the members who had passed away over the past year President Carl quickly moved into the routine of the Annual Meeting agenda, introducing the visitors from Ontario, Saskatchewan, Alberta, British Columbia, and CCPE.

**CCPE** Commencing with President R. Burridge of CCPE, Carl invited the guests to comment on their activities. CCPE is proposing the automatic transfer of membership after five years of provincial registration. Also, discussions are being held with the USA and Mexico re: the implications of the NAFTA.

**ELECTION RESULTS** The results of the election were then announced. 3419 ballots were mailed out, and 712 (21%) were returned. Elected for a second term was Cathy Stewart, while Stella Fedeniuk, Arthur Kempan and Bob Partridge were all elected for the first time.

President-Elect Doug Chapman was appointed President, and Dr. Ertrice Eddy and Mel Cornell, who is serving a second term, were appointed as lay councillors.

**APEGGA** Bob Ross of APEGGA reported lengthy negotiations with the provincial technologists and technicians who are seeking the right-to-title and the right-to-practice.

**AUDITOR'S REPORT** There was considerable discussion raised by Bill Mackenzie on the reporting of the appropriation of $100,000 to reserve for fixed assets. He felt that this was, in effect, surplus, and should be clearly indicated as such. There followed considerable discussion on reserves, the limits of reserves, and the purposes of reserves.

**PEO** *(formerly APEO)* President Jane Phillips reported on PEO's relationship with the technicians and technologists, indicating that an agreement on a first-stage had been reached but further stages of discussion were yet to come. She noted that PEO is endeavouring to make the admission process more user-friendly to off-shore registrants, and is also doing an internal review of who they (the Association) are and how they relate to those outside of the Association.

**BUDGET AND FEE SCHEDULE** The budget and the fee schedule were received as information.

**APEGBC** Ross Rettie, APEGBC's Director, Professional Practice and Ethics, reported that the Association is producing guidelines for mechanical, electrical, and structural engineering consulting services, and is reviewing the practice of consulting engineering -a form of peer review. All of this relates, more or less, to the previous collapse of the parking structure. The work experience log is also under review.

**NOMINATING COMMITTEE** Three members-at-large were elected to the Nominating Committee: Bo Gulay, Bob Hamlin and Carol Roberts.

**APES** President Reg Briggs reported that the Association has been in a lengthy process of revision of the Act, having now reached the 10th revision. They are incorporating the geoscientists

*Continued on page 12*

# Eighteen Houses Completed in Five Days – An Engineering Feat!

*By: Wm.M.A. McDonald, P.Eng.*

On Monday, July 19, 1993 at 8:00 a.m., after an early morning devotional service, 700 volunteers started building 18 homes for the Jimmy Carter Work Project '93, sponsored by Winnipeg's Habitat for Humanity.

By 5:00 p.m. Monday, the framing was complete, roof trusses were raised, roof sheeting and shingles were being hammered into place, and windows were installed. During the late afternoon and evening the plumbing, heating and electrical trades-people came in to complete as much of their work as possible.

Day two was taken up with sealing, caulking, installing vapour barriers, drywalling and taping. By the afternoon, some houses were falling a little behind with the drywalling, taping, and sanding; thus, a call went out for additional assistance. On the outside, the Tyvek went on and the vinyl siding was underway.

The "ELF" crews came out from 5:00 - 10:00 p.m. and did catch-up work. I ran into Allan Ball, P.Eng. working with this team.

By Wednesday morning most of the houses were back on schedule, thanks to Allan Ball and the "ELF" crews.

The schedule for Wednesday included completing the vinyl siding, starting on the interior painting, hanging doors, and delivering of the cupboards and vanities.




*Habitat homebuilders Osman, McDonald, Stokes, Friesen and Morris.*

Our house at 23 Habitat Place was on schedule. It was a nice sunny day and sitting on the scaffold putting on the siding provided me with an opportunity to look around and see what was going on with some of the other houses. Next door, I recognized Don Osman, P.Eng. resplendent in an impressive leather carpenter's belt, hanging doors. He must have been a carpenter before he became an engineer. At coffee break I ran into Glenn Morris, P.Eng. who was on another house on our bay. Glenn's house leader didn't know he was a professor, so Glenn had to work hammering nails like all the rest of the gang. None of his crew seemed too interested in Glenn's theory of why the roof trusses should have the peaks pointing up.



*President Jimmy Carter and Team in action.*

At 31 Habitat Place, a couple of houses over from ours, was the Carter House. The steady stream of V.I.P.'s, media and on-lookers didn't seem to phase President Carter (also an engineer) or his wife Rosalynn, who were busy hammering nails and sawing boards in between all the press and photo opportunities. Among the working visitors were Premier Filmon, P.Eng. and his wife Janice.

Thursday's schedule included completing vinyl siding, soffits, facia and landscaping. The landscaping got all the crews out of the houses as the carpet and vinyl flooring crews took over the interior.

Because the outside work happened to fall on another one of the great days we had this summer, it was an opportunity to get out and meet some of the people from the other houses on the front yards-to-be.

On a walk over to the other bay to look around, I found a house at 39 Giiwe Cove that had a very lively crew with lots of yelling and hollering. Apparently, there were two engineers working on this house who both wanted to be the boss. Officially, John Friesen, P.Eng. was the House Leader and Bob Stokes, P.Eng. was the Chief Engineer.

Another engineer seen on the site was Sam Block, P.Eng. (retired a few years ago). Sam seems to be enjoying getting back to the hustle and bustle of the construction game.

Also spotted working on the landscaping was Hilmi Turanli, P.Eng. I pointed out to Hilmi that the rake he was using was upside down but he said it worked better that way.

Fortunately, when the sod arrived we had enough engineering expertise on site to point out to all the non-technical volunteers that it was to be laid "green-side-up".

Friday was a day of cleanup, touch-up painting, planting of shrubs, trees and flowers, moving in of appliances and holding home dedications.

Then it was time to wish the new home-owners good luck and give farewell hugs to all the crew people we had come to know over the five-day build.

It was an emotional time, for this project had been an experience and opportunity that will long be remembered. □

## CCPE President's Message

*Continued from page 6*

objective but an impending reality. Six of our associations currently allow for the transfer of applicants who are members in good standing of another association without further conditions, and for the remainder, impediments to transfer centre on two main issues: non-CEAB educational qualifications and acceptable experience, both of which are under intense examination and discussion. We can expect that in the near future, relatively free mobility will be achieved. This will require the adoption of further common guidelines on the few remaining issues and continuing discussions to remove some lingering concerns in some jurisdictions that some sister associations may not be applying admission standards rigorously enough. I believe that closer co-operation will remove these doubts and misunderstandings.

Our predecessors, in the latter part of the last century and the early years of this one, moved with vision and commitment to create a profession which has a common national definition and responsibility; and this vision continues to be the inspiration for the work of CCPE. Abroad, Canadian engineers have an enviable reputation and this is not qualified by the part of Canada in which they live and work. It remains for us in Canada to fully recognize the excellent work being done in all aspects of self-regulation in each of our jurisdictions, using common standards, so that an engineer registered in one association/ordre may freely transfer to any other without impediment. □

# Council Reports

## September 13, 1993

*By: J. Lucas, P.Eng.*

### AT WHICH COUNCIL CONSIDERS A LARGE SURPLUS, RETIRED MEMBERSHIP AND CHAPTERS

Council's September 13, 1993 meeting moved lively through the preliminaries but shifted to a reflective mood during a discussion on the APEM financial statement. An annual surplus of approximately $94,000.00 was treated with concern by all members. Fiscal restraint by staff and committees and reduced legal fees have created this fund. The surplus will be used to finally fund the delayed office computer system (estimated cost $85,000.00).

An extended discussion determined that the $2.00 fee increase would be maintained to reduce the likelihood of future financial shortfalls.

Licences, EIT's, Transfers, Registrations, Reinstatements and Minutes of the Executive Committee were handled effectively and the meeting moved onward.

After an overview and approval in principle of the draft Manual of Admissions and unanimous acceptance of Awards Committee recommendations, a short break was called.

Reconvening, Council examined proposed changes to membership categories for Retired, EIT and Non-Practising members. The revised document will be presented as a proposal to the Annual General Meeting for approval, prior to mailing to the membership for ratification.

A proposal to approve the Constitution of the Thompson Chapter of APEM was put before Council. With input from Roget and Pat Feschuk, the motion was approved subject to legal review.

An update was presented concerning sewage lagoon construction and operation. This item remains under active review.

Quorum was lost at 5 p.m. and the meeting was dissolved without completing the agenda. □

## October 12, 1993

*By: B.A. Dobran, P.Eng.*

### AT WHICH COUNCIL ESTABLISHES AN ENFORCEMENT COMMITTEE, DISCUSSES THE INVESTIGATION PROCESS AND PROPOSES BY-LAW CHANGES

President Carl Anderson called the meeting to order on time, with all but two councillors present. Mr. Anderson advised that this is the last meeting of the present Council and thanked Ray Hoemsen, Bob McKibbin and Gail Fyfe for their participation, adding that he hoped to see Cathy Stewart re-elected to Council for a further two years. Then, all those present set to work addressing the 26 items on the agenda.

Dave Ennis's financial statements, dated August 31, 1993, were approved, as well as the Licences, Engineers-In-Training, Transfers, Registrations and Reinstatements. In conjunction with business arising out of the Executive Committee meeting, Dave Ennis requested that members of Council review the Draft Memorandum of Agreement between APEM and the Manitoba Association of Architects. Members of Council were requested to send their comments to Dave by November 19, 1993.

In more business arising out of the Executive Committee meeting, Dave Ennis reported that the Thompson Chapter was established on September 30, 1993 on the basis of a constitution adopted by Council at its last meeting. It was noted that the rules governing a Chapter of the Association ought to be the same as the rules governing the Association itself – one being a subset of the other. Accordingly, it was decided that the Lay Associates of the Thompson Chapter not have voting privileges. It was then decided that the Thompson Chapter will modify its constitution to synchronize with the Westman Chapter constitution when created, by changing "Associate Members" to "Lay Associates". Council then ratified the actions contained in the minutes of the Executive Committee meeting.

Mal Symonds was appointed to serve as a temporary member of the Executive Committee until the new Executive Committee is appointed. Next, the Auditor's Report, dated August 23, 1993 was approved.

Council then considered a copy of the Resolution which was sent to the membership re: alternate premises for the Association office. The resolution was received as information, and Council was advised that Mel Cornell will be making a presentation at the Annual General Meeting.

In other business, Council accepted, as amended, the Terms of Reference for the Enforcement Committee. Council agreed that Don Osman champion the Enforcement Committee and recruit a Chair and members for appointment at Council's December meeting.

Carl Anderson then announced that a Long Range Planning Session will be held in conjunction with the January, 1994 Council meeting. He encouraged all councillors to attend. Council then decided that the Chair of the Investigation Committee should be invited to attend the January Council meeting to inform Council of the procedures followed by the Investigation Committee and be prepared to respond to the perceptions of the new councillors.

Council then considered a letter which it received from an engineer regarding the Association's fee-payment process. Council discussed the payment process and agreed that it was the members' responsibility to pay their fees on time. Dave Ennis noted that, in compliance with Council's instructions, the final notice regarding payment of fees will be sent by registered mail next year.

Council then adopted additional policies re: retired members and deferred dues, subject to the changes of By-Laws 35, 36 and 37. These policies will be made known to the membership elsewhere in this publication.

Next, Council re-appointed Ken Buhr and Shirley Matile to the University of Manitoba Faculty Council of Engineering for another year.

In one of the last items of business, Council endorsed the Board of Examiners' recommendation that graduates of all programs accredited through the Engineering Council of the United Kingdom, as of 1989 and later, be granted the same recognition, rights and privileges as those granted to graduates of programs accredited by CEAB/CCPE, subject to a review of their transcripts with examinations, if required, to correct deficiencies.

After five and a half hours of considerations, deliberations and decisions, the last meeting of the present Council was adjourned. I am certain that the entire membership joins me in thanking all those on Council and staff for giving so generously of their time and dedication. □

## National Engineering Week

### March 5-12, 1994

Be part of it! Participate! Help increase awareness of the importance of engineering in our everyday lives! Help encourage young people to consider engineering as a career!

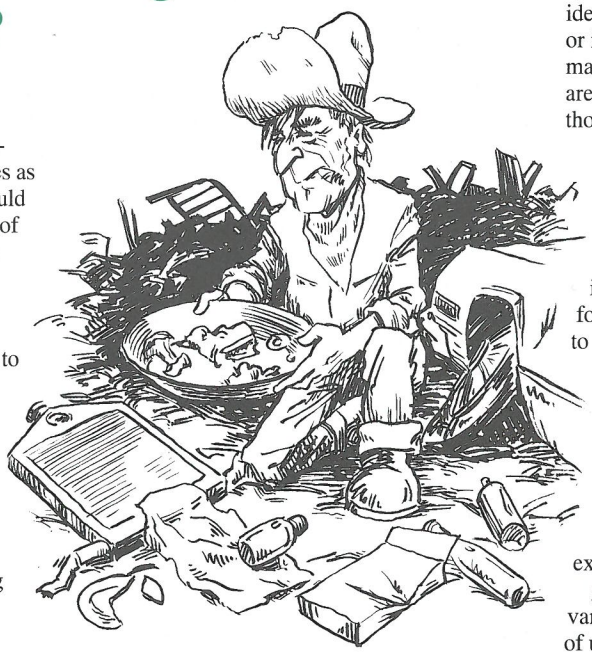
This week-long celebration (formerly named "Festival of Engineering") will be held March 5-12, 1994. Exhibitions, displays, open houses, student design competitions and career information sessions will be held all across the country.

Tell us how you would like to become involved.

Please call Ruth Eden, 945-3773, for more information.

# Value-Added Processing – Is There Gold in Garbage?

*By: D. Strang, P.Eng.*



Did you know that Export Packers of Winnipeg supplies a material that sells for 14 times as much as gold, by weight? If you did, you would realize the benefits of the company's strategy of pursuing value added processing (VAP). You would also see that selling an enzyme called avidin for $250,000/kg instead of pouring it into the sewer seems like a pretty attractive proposition. The trick is to develop a process to extract such a high-value enzyme from what is either a low-value product or a waste product.

The economics of VAP were described by Larry Barker, P.Eng. at a recent APEM luncheon meeting. Mr. Barker is Vice-President, Operations at Export Packers Company Ltd. as well as Vice-President, Bioengineering at STC Laboratories Ltd. As a food engineer with Export Packers and its subsidiary, STC Laboratories, he is involved with the development and production of such value-added products as enzymes and biochemicals from eggs and agricultural raw materials.

His presentation provided an overview of some VAP activities in Manitoba, with a focus on activities at Export Packers. The September 8, 1993 luncheon, which was attended by over 40 people, was one of a series sponsored by the Research and Development Committee. The presentation offered an opportunity to see how technology has been moved from the laboratory into daily use by a Manitoba company.

Export Packers currently breaks 1.5 million eggs per day and separates the whites, yolks, and shells for sale as separate products. Traditionally, only the whites and yolks were seen to have value. However, through the aggressive application of technology, this company has managed to squeeze several highly profitable products out of the same egg. To demonstrate the mechanism for the profitable application of technology, the speaker laid out the following steps. "First, you identify the microcomponents in a waste stream or in a crop. Then you find out what the uses, market size, and value of those microcomponents are. Then, you develop a process for extracting those microcomponents."

Development of the process is where the discipline of food engineering comes into the picture (see "What is Food Engineering?", *Manitoba Professional Engineer,* June 1993). Through the purchase of an Italian technology, subsequent internal R&D, and food engineering, Export Packers has been able to increase the value of 50 dozen eggs from about $50 to $18,000 by extracting such enzymes as lysozyme, avidin, and flavoprotein. A further benefit of removing these enzymes is that the removal actually improves the nutritional qualities of the remaining egg white.

In a parallel process, Export Packers extracts a peroxidase enzyme from Manitoba-grown horseradish for sale at $60,000/kg. The various enzymes mentioned above have a variety of uses, such as food additives, medication, cancer treatment, and substances for use in drug testing.

Mr. Barker concluded his presentation by stressing that the benefits of pursuing VAP include not only the monetary returns, but also the development of technical competence within the company. He indicated that 25% of the workforce at Export Packers are graduates of university or community college and STC Laboratories has 13 research staff. This makes it one of the largest corporate food research groups in Canada. □

# APEM's Role in Future Education For The Marketplace

*By: A.E. Ball, P.Eng.*

Mal Symonds stirred the pot on the morning of October 18 amidst an audience of engineers and educators. Mr. Symonds, Director of Aircraft Engineering at Bristol Aerospace, spoke on the subject of education of engineers; and a lively subject it was.

Mal began with a brief review of education over the last few decades. With reference to work by Willard Daggett, he stated that education of the 40's and 50's was basically to produce good citizens; that the basic thrust of the 60's and 70's was to obtain a better life through a university education; and that, due to the technology explosion, industry needs are now quite different. The skills that are important to employers are technical reading; sequential, analytical and statistical analysis; and the ability to accept rapid change. This is driven by such things as Flexible Automated Manufacturing, Just-in-time (JIT) product delivery, and zero-defect manufacturing. Students don't need to know Shakespeare or how to write compositions – they need to be able to communicate readily with machines, robots, and computers.



*Mal Symonds*

An example of a hose-clamp supplier for General Motors was presented. Hose clamps were made mostly by hand with a staff of 300. When GM entered the robot age, better tolerances were required that forced the company to also automate. Staff levels were reduced dramatically to 17 employees who were then expected to run the entire plant. Although the remaining employees underwent re-training, they did not possess the necessary skills to keep a state-of-the-art plant running properly and, as such, were replaced with new, specially trained staff that could deal with the almost daily change in microprocessor programming.

Interactive communications and co-operation are very important skills in today's competitive economic environments. School, college and university students are all taught to work independently and not share their work (or answers) with others. Industry, on the other hand, demands the best answer and does not care if it takes one, two or a number of individuals combined to provide that best answer. Mr. Symonds suggested that today's students must learn how to provide the best possible solutions through co-operative efforts.

Another key to global competitiveness is the preparation of students with high-level technical skills. It seems that the degree of preparation of high school students in Asia and Europe for advanced technical training is superior to both U.S. and Canadian students. One of the reasons for this could be the number of hours that foreign students spend in class each year. For example, in Korea, students attend school 278 days per year vs. about 243 days in Japan and only 180 days in Canada. Korean students are also treated to more challenging 10-hour days.

*Continued on page 12*

# News From Other Associations

*By: L.Y. Ganetsky, P.Eng.*

## Saskatchewan

### Science Can Be Fun

Scientists and engineers have a secret they don't often share with the general public: science is not boring. In fact, it can even be fun.

This little secret can't be kept any longer if we're serious about developing new generations of scientists and engineers, or if we want greater public understanding and support of science-related issues (and what isn't a science-related issue?); hence, the Saskatchewan Science Centre.

In the Science Centre, visitors discover basic scientific principles for themselves through more than 70 hands-on exhibits. They send a hot-air balloon soaring three stories high, test their balance, strength and reflexes, generate electricity, draw their own animated cartoons, test their knowledge of water and experiment with soil erosion. Live presentations by the Science Centre's friendly demonstrators involve them in explorations of static electricity, cryogenics, light and lasers, environmental issues and more.

Impressive travelling exhibits from around the world come to the Science Centre on a regular basis, on topics as wide-ranging as the science of India, women inventors, wild animals that live in our cities, superconductivity, Muppets and (this summer's major visiting exhibit) dinosaurs!

Enhancing the exhibits and the demonstrations are special programs aimed at everyone from kindergarten students to senior citizens, with a special emphasis on curriculum-related workshops for schools: Hands-On Habitats, Planets At Play, Cool Conductors, Cardiac Cu-Up and Microscope Magic, to name a few. More than 30,000 students from over 200 Saskatchewan communities came on class visits in 1992.

Complementing all of this is the Kramer IMAX Theatre. Not only do most of the films shown on its five-story screen have a strong scientific content, the theater itself is a showcase for Canadian technology expertise, because IMAX, which uses the largest film format in the world (every frame is 10 times the size of an ordinary movie film frame), is a Canadian invention.

It's easy to look at all of these elements and think of the Science Centre as an educational institution; but the Science Centre's purpose goes beyond education. Even as the Science Centre adds another 30 or 40 permanent exhibits over the next few years, it can only skim the surface of the huge (and growing) mass of scientific knowledge. Nobody can learn everything there is to know about science, or even about a single topic, at the Science Centre. Teaching science isn't the Science Centre's goal. Its goal is to make people of all ages see science in a new way, to see it as something alive, vibrant, relevant, and (dare we say it?) even fun.

The Science Centre's success is demonstrated by the fact that it has become one of the province's premiere attractions, averaging 180,000 visitors a year for the last two years. More than 2,600 people are members of the Science Centre, so, for their membership fee they can visit all year long.

Maybe among all those visitors are a few youngsters whose experiences at the Science Centre will help convince them to pursue a scientific career. However, just as important will be the many more children and adults who go away with a greater appreciation for science, scientists and engineers, and more willingness to support their work.

Even if they are having fun.

### University of Saskatchewan Grad Designs Four-Wheeler

University of Saskatchewan graduate Karl Miller [BE'87(Mechanical)] is hoping his invention will be a hit in China.

Miller recently won honorable mention in the prestigious Rolex Enterprise Awards for his design of a quadricycle. He plans to manufacture it in China for use as a work-oriented vehicle, especially among the rural population. He sees the quadricycle, which he refers to as a "human-powered pick-up truck", as an improvement on the so called fish tricycle, widely used in China to transport fish and other commodities.

Miller, now completing his masters degree in environmental design at the University of Calgary, built the prototype for his four-wheeler while on a CIDA-funded scholarship in Shanghai, in 1991.

His design makes a number of improvements on the British-designed fish-tricycle. It's less than half the weight (36.4 kg) and easier to pedal, steer and brake. Miller says the driving force behind his invention is "to make a positive difference" for the Chinese population, 70 per cent of whom live and work in rural situations, often in poverty.

## Alberta

### Right on Key

Engineers are gearing up to assist concert pianists with an issue of growing concern: piano keys. Pianists complain that plastic keys are poor and sweaty substitutes for the light "feel" of ivory under their fingertips. Ivory, however, is no longer available under an international treaty ban.

An American engineering team discovered that the surface of ivory is covered with fine valleys and ridges of random orientation that are difficult to duplicate by molding. Ivory also has random porosity which absorbs excess sweat.

"This is a standard mechanical problem of boundary lubrication," Henry A. Scarton, Association Professor of Mechanical Engineering at Rensselaer Polytechnic Institute in Tory, New York, told Mechanical Engineering (New York).

His team used the mold of a real ivory key, an ivory-colored Polymer and a powdered material to duplicate the surface of ivory. The patented material has the look and feel of the original. □

## *Engineers Attempt To Rebuild Haiti*

*Continued from page 1*

had been using open pits while toilets, although existing, had not been connected to any water lines. With most of the facilities surrounded by piles of garbage, the work to be performed would be an arduous challenge – but one which would be extremely rewarding for the UN Engineers.

In advance of the main body, LCol King, six other Canadians and 46 U.S. officers returned to Haiti on October 5, 1993 to finalize the arrangements with Prime Minister Malval, General Cedras and the Government of Haiti.

While the Advance Party was in Haiti, the first phase of the main body – 125 UN engineers including 25 Canadians – was to arrive in Haiti on board the USS Harlan County, a large U.S. supply ship, on October 11, 1993. The ship was also loaded with a large amount of construction material, heavy equipment, and vehicles to facilitate the immediate construction of the school projects. Included on the ship were medical and support personnel to be deployed to assist the engineers. The engineers were to begin construction of the main base camp and the seven school projects.

Unfortunately, the ship was prevented from docking at the port due to a violent confrontation with armed "thugs" at the port entrance. Despite previous agreements with the Haitian authorities, the port was not secured and any attempts by the UN to gain access were met by machine-gun and small-arms fire. As a result of the continuing threat, the ship was ordered by the U.S. to leave the coast of Haiti and sail to Cuba.

From this point, the possibility of proceeding with any of the projects or the base camp came to a halt. Despite previous guarantees from the Haitian government for the safety and security of the UN engineers, these incidents proved that such agreements meant absolutely nothing.

With the increase of violence and threats toward the UN and the assassination of the Minister of Justice, the UN ordered the withdrawal of all UN missions on October 15, 1993. The wives and children of the UN Human Rights Mission were the first to leave the island. The Canadian and U.S. military evacuation followed on October 16, 1993.

On October 18, 1993 a UN goods embargo was in place against Haiti and enforced by a multi-national naval force. Aristide did not return on October 30, 1993 as previously agreed upon and therefore the future and success of democracy in Haiti and the resulting UN mission is now at a stand-still.

When I left Haiti, I left with mixed feelings of frustration and relief. The right decision at the right time had been made, regarding our evacuation. The frustration was being "so close but yet so far" from performing good-will projects for the Haitian people. The UN force has returned to Canada and the U.S., and is now awaiting further orders. It will remain on hold until the Haitian government demonstrates that it can secure a permissive environment and abide by the Governor's Island Agreement. □

# Thompson Chapter News

## Thompson Chapter Annual General Meeting Report

*By: R. Cotterill, P.Eng.*

On September 30th, a day that will be remembered by most Thompson members as the day that the Thompson Chapter was formally recognized, an excellent half-day seminar was held. The seminar, led by President Carl Anderson and Executive Director Dave Ennis, dealt with Concepts on Professionalism. There were 33 Thompson engineers in attendance.

In the evening, 22 members gathered for the Annual General Meeting. Chair Ian Farr welcomed the guests and gave his report of the past year's activities, executive activities and general comments. Ian also thanked retiring Executive Members Dave Nicholls and Nan Lee for their hard work and support. In the absence of Treasurer Nan Lee, Roger Blunden presented the financial report. Nan kept with the past tradition controlling the purse strings. We started the year with $173.27 and our closing balance was $155.70. A quiet call for an audited statement was ignored by the Chair.

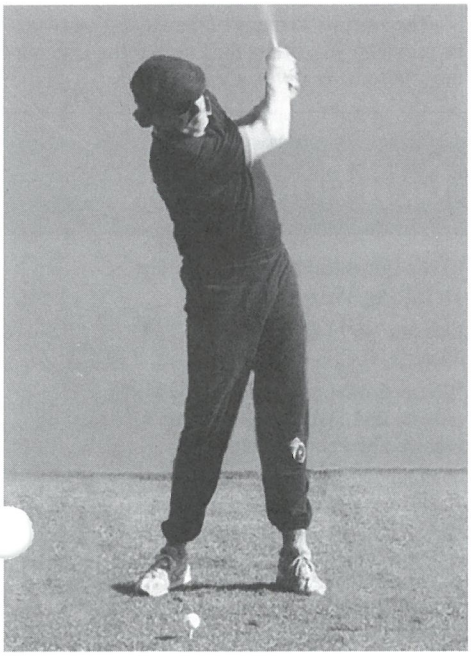
Councillor Cathy Stewart presented her Council report which dealt with Council's desire to see APEM build its own building, the new non-residency policy and the draft admission standards manual. She also thanked the local executive and the Chapter members for their support during her two-year term on Council. By the time the next newsletter is published, we will know whether Cathy was re-elected. (The author has served with her on our local executive and on an APEM subcommittee, and through these meetings I was introduced to a dedicated and hard-working engineer.)

Roger Blunden provided those in attendance with a brief history of the initial formation of the Thompson Chapter. It is hard to believe that an informal gathering over five years ago at City Hall finally resulted in the formation of a local Chapter. Roger presented the proposed new Chapter constitution and moved that it and the By-Laws be adopted. They were adopted unanimously. The official By-Laws were signed by the Thompson Chapter Chair and Carl Anderson. Carl Anderson then presented the Thompson Chapter with a certificate recognizing the formation of the new Chapter.

Robert Cotterill presented the Nominating Committee report. Deanna D'Amour, Brad Keiser and Cecile Kelly were elected for a two-year term. Carl Anderson then presented engineering seals to new APEM members Ian Thompson, Tim Kelly and Vera-Marie Meier. The meeting ended with our guest speaker, Carl Anderson, making an interesting presentation entitled "Learning by Participation". □




*Carl Anderson, with new members (left to right) Vera-Marie Meier, Ian Thompson, Tim Kelly and Chapter Chair Ian Farr.*



*Wayne Stewart in action.*

## Thompson Chapter's Golf Tournament

*By: D.G. Nicholls, P.Eng.*

This year's golf tournament was a success as the local branch of the CIM (Canadian Institute of Mining and Metallurgy) and APEM joined together for a fun day on the golf course. The regular rules of golf were altered somewhat for this tournament, and had golfers teeing off with 9 irons to 7 irons and putting with drivers.

The team of Dave Owens, Dale Andres, Gerry Rogers and Garth Liukko was the winner of the event. First prize, as usual the "BIG" prize, was a set of golf tees for each member of the team.

Lots of door prizes were given out, and thanks go to the tournament sponsors for their generous donations: McIntyre and Associates, Powell Equipment and The Thiessen Team. □

## APEM Policy Statement on Education

The APEM Council has requested that the Public Awareness Committee draft a position paper with respect to the Canadian education system and its perceived failure to provide students with skills that are required in the workplace. A subcommittee has been established to prepare a draft of this paper, for further consideration by Council. If any members of APEM have a particular interest in participating in the work of the subcommittee, please contact the Chair, Bill Brant, P.Eng. at 477-6650.

# Meet Your New Councillor – Bob Partridge

*By: S.M. Matile, P.Eng.*



Bob Partridge is a man of great commitment and determination.

At the tender age of 11, when he first moved to Winnipeg, Bob became friends with his neighbour then the General Manager of Dominion Bridge, who gave him a tour of the plant. Bob was so impressed by Dominion Bridge ("the consummate builder") that he decided, right then, to become an engineer.

Bob only lived in Winnipeg for two years; and although he met many more neighbours in many more neighbourhoods during his youth, he never lost sight of his goal.

Following high school in Toronto, Bob enrolled in the Faculty of Engineering at the University of Toronto. After his first year of studies, he applied for only one summer job: with Dominion Bridge (Toronto). He got the job, worked there every summer thereafter, obtained a full-time job with them upon graduation and the rest, as they say, is history.

Bob obtained his Master's degree in engineering and his MBA while working for Dominion Bridge and its subsidiaries in Ontario; and in 1987, he accepted a transfer to the Winnipeg office, where he is currently Manager of Engineering and Sales.

Another example of Bob's determination is his recovery from a post-graduation skiing accident. An improperly-set broken leg, followed by three years of limping, re-breaking, pins, plates, and bone-replacement left Bob in less-than-perfect physical condition. While physiotherapy help re-build his deteriorated bone and muscle, Bob embarked on a running program to raise his cardio-vascular fitness level. Starting off very slowly, he gradually worked his way up to six miles a day. When a colleague, who also ran six miles a day, told Bob that he had completed a marathon, Bob resolved to do the same. After all, Bob was 10 years younger!

Needless to say, Bob now has three full marathons under his belt; and he still runs, every day, at 5:30 a.m.! This year, he joined the APEM marathon relay group – and helped his team win a silver medal!

Bob's other interests include skiing (yes, he still goes, at least once a year!) and sailing. With his wife Susan and their three daughters, Bob can be found, during most summer weekends, aboard the family sailboat on Lake-of-the-Woods.

Since 1991, Bob has served this Association – and served it well -as Chair of the University Liaison Committee. But Bob Partridge wants to do **more!** He has enjoyed Association committee work, but he intends to become more involved in fundamental Association activities. He wants to take an objective look, from a new perspective, at the way APEM has been, and is being, run, and to assist in improving and renewing some of our processes and implementing change. He wants to ensure that APEM is serving the public and its members in the best possible manner.

Of particular interest to Bob is the way in which this Association is attracting people to the profession.

Bob Partridge is a man of great commitment and determination; and there is no doubt in my mind that APEM will benefit greatly from his service on Council. □

## *APEM's Role in Future Education for the Marketplace*

*Continued from page 9*

Mr. Symonds stated that today's graduates rarely rank past the lower levels of comprehension and application vs. the higher levels of analysis and synthesis. Because of the speed at which the world is advancing, the future needs of industry are not being systematically met. An enlightening example of this involved a speech by a prominent world specialist at a conference in London, England. No sooner had the speaker sat down and the host said a few words of thanks, than assistants entered the room and handed out typed and spell-checked copies of the speaker's presentation. This would not be so miraculous except for the fact that the copies were produced without the speaker's knowledge via voice-recognition circuitry, word-processing packages, laser printing and high-speed copying. As a result of that display of state-of-the-art technology, it was predicted that within five years all business would be using this technology or be non-competitive. Clearly, the students of today are not getting the necessary listening and speaking skills required to excel with these kinds of upcoming technologies.

Mal concluded his presentation with a challenge to engineers to support the APEM in its endeavour to assist industry and the educational community in developing skill sets that will be useful to today's students and tomorrow's employers.

Because of the topical nature of this subject, Mal's talk drew a large number of questions and further discussion. Much of the discussion confirmed that industry/educational liaison has been severely lacking in the past and that the real needs of industry have not been well known. Of course, many raised the question of how much better foreign students really are when compared over a wider range of skill sets.

The answers to many of these questions can be provided, in part, by the Engineering Community. In some respects, it's up to us! □

## *The Annual General Meeting*

*Continued from page 6*

into their Act. APES recently reorganized its administration by using Council as a policy-setting body, with four boards to take on the various phases of administration. This form of operation apparently has worked well. Relations with the technologists and technicians were reported as cordial.

**BY-LAWS** Proposed changes to the By-Laws, relating primarily to some forms of membership, the associated dues and the deferral of dues under special circumstances, were passed. Also passed was a By-Law giving authority to the creation of Chapters of the Association. These By-Laws will now be sent to the membership for ratification.

**REPORTS OF COMMITTEES** All committee reports were included in the Manitoba Professional Engineer; however, the Chairs of the Board of Examiners, and the Professional Development Committee reported on the highlights of their committee activities.

**RESOLUTION RE: PREMISES** This resolution related to the matter of ownership vs. rental of premises. Some preliminary investigations have been done. The resolution will give Council the authority to continue investigating the merits of owning vs. renting premises and to report its findings to the membership at a special meeting. Cautionary notes were sounded on both the pros and cons of ownership and leasing.

**PRESENTATIONS** The meeting closed with presentations to retiring councillors Pat Feschuk, Ray Hoemsen, and Bob McKibbin and the transferral of the Presidency to Doug Chapman with the signing of the scroll in the gavel. So ended the 74th Annual General Meeting. □

# Call For Papers

## Sixth National Conference On Drinking Water

October 16, 17 & 18, 1994
Victoria, B.C.

Abstracts of approximately 500 words, preferably on disk (Wordperfect 5.1 or 5.2), must be received by February 11, 1994.

Contact: Mr. Barry Willoughby
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Box 8419, Victoria, B.C.
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Telephone: (604)387-2696
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