THE MANITOBA

Professional Engineer

ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF MANITOBA

April, 1992

1992 APEM Curling Bonspiel

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

The 1992 APEM Curling Bonspiel was held January 14 at the Granite Curling Club. This year, yours truly was asked to represent the long-standing and honourable tradition of the DS-Lea Consultants "Road Warriors" curling team. Having curled once before in my life (experienced, by our team's standards), I was given the position of "second". Joining the group were Garry Romanetz, Derek Belsham and "skip" Rob Borody.

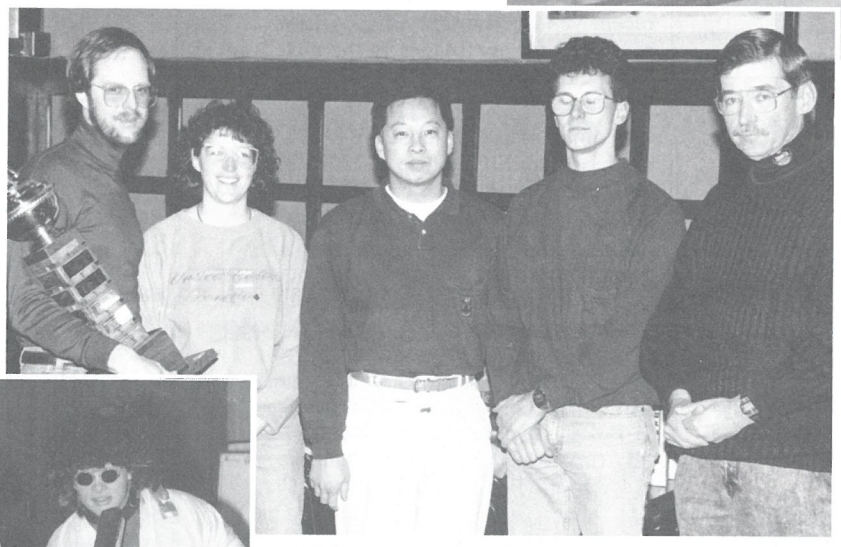
Bonspiel day began early at 7:00 A.M. Breakfast was available for the early risers who came there to watch many bleary-eyed curlers make their entrance. Having dispensed with the complimentary doughnut/coffee /sugar fix, we were ready.

Bill Mackenzie explained the tournament's format, the process of elimination and said something about the guard take-out rule. I thought curling was a non-contact sport. We were led onto the ice by piper Kirby McRae (someone explained it was some kind of Scottish ritual that had to do with golf or curling; he wasn't sure). I wanted to ask Kirby if there was some sort of insulating material under the kilt. Having dispensed with the opening ceremony, the bonspiel was on.

The Rastafarian team was well represented although they may have second-guessed the selection of shorts as their means of attire on this cold morning.



President Pat's Parade Pursues Piper.



"A" Event Champions Sean Quigley, Rhonda Orr, Charlie Lew and Dave Nicholls with President Pat Feschuk.



"Where, oh where has our lead man gone?"

Throughout the day, it didn't matter where our skip placed his stick – I mean broom. Our inexperience dictated that the rock went where it felt like going.

Some of the disrespectful competition suggested that this was similar to how we worked anyway. Others asked who was calling the shots, because it didn't matter where the skip wanted it. We explained that this was much the way our skip conducted a survey.

We were given the opportunity to play three games during the day. No one took us seriously (neither did we) and we even managed to win one game. After a pause, where The Granite treated us to a fine lunch, the games were once again underway.

Despite my description of our own inept team, there were others who curl regularly and played very well. After the wannabees were eliminated, the for-real teams played. The team skipped by Dave Nicholls, with third Rhonda Orr, second Sean Quigley and lead Charlie Lew emerged victorious. It was an enjoyable day and everyone should be encouraged to participate. All should express our compliments to the Sports Committee for organizing this event.

After returning the brush that I borrowed as well as the slider thing, I think we'll play again next year. □

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– Notice –

Payment of Outstanding Fees and Deregistrations

All members who have not paid their 1992 Annual Fees are reminded that, if all outstanding fees and penalty charges are not **received in the Association office** on or before June 30, 1992, their names will be removed from the register and they shall cease to be members. No exceptions are allowed under the Association By-Laws.

Those who are deregistered for non-payment of fees can apply for reinstatement. Each applicant will be required to pay all fees owing for 1992, pay a reinstatement fee, write and pass the Association Professional Practice Examination, provide names of referees who will verify the last two years of their engineering work experience, and provide Council with a satisfactory explanation as to why he or she allowed the membership to lapse. □

Engineers in the News

Madhav Sinha, P. Eng. of Manitoba's Department of Labour, has been elected a Fellow of the American Society for Quality Control.

The ASQC is an international organization with more than 95,000 individual and 700 corporate members in 64 countries.

The Society's highest honour was bestowed upon Mr. Sinha for professional distinction and pre-eminence in the theory, education, application and management of quality control.

Joe Lucas, P. Eng., a partner in MCW Consultants Ltd., Winnipeg, prepared a paper which was presented at the fifth international thermal energy storage conference, Thermastock '91, in The Netherlands.

The paper detailed the performance of the aquifer heating and cooling system designed by MCW Consultants Ltd. for Winnipeg's Winpak plant. □

EIC Changes By-Law

The Engineering Institute of Canada (EIC) Council is proposing some modifications to its By-Law to adapt it to the changes of recent years. The new EIC By-Law will be presented for acceptance at the next Annual General Meeting on June 6, 1992 at 2:00 p.m. at the Hotel Delta in Ottawa.

Copies of the proposed By-Law may be obtained from EIC's office at 280 Albert Street, Suite 202, Ottawa, Ontario, K1P 5G8, Tel: (613) 232-4211, Fax: (613) 232-0390. □

LICENCES ISSUED IN JANUARY & FEBRUARY, 1992

R.D. Adams (B.C.)
O. Beeman (Oregon)
B. Boucher (Que.)
T.D. Cromie (Ont.)
A.H. Dinani (B.C.)
J.C. Draper (Que.)
F.G. Driedger (Alta.)
B.F. Eckel (Sask.)
R.P. Fallowfield (Ont.)
F.E. Hann (Ont.)
D.L. Killam (B.C.)
R.J. Kooren (Ont.)
K. Lamb (B.C.)
P.S.Y. Lo (B.C.)
P.S. McCreath (B.C.)
D. Morin (Que.)
R.S. Nisbet (Sask.)
V.S. Platek (Que.)
B.R. Pluhator (Sask.)
D. Pristach (Ont.)
I.E. Robson (Que.)
C.S. Seaby (Ont.)
L.G.A. Sutherland (Ont.)
A.A. Vandertol (Alta.)
A.A.P. Van Halderen (Ont.)
R.L. Waelchli (Oklahoma)

WE HAVE LOST CONTACT. MAY WE HAVE AN ADDRESS?

J. Abiusi
W.P. Clement
C.E. Lamont
B.S. Ram
D.G. Skinner
A.J. Troop
P.A. Vrsnik
C.L. Weiss-Bundy

"Jobs Wanted" Column –

A New Service to Members

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

Council has approved a project to enhance employment opportunities for members. This project was initiated by the Publication Committee. (See Council Report - November 9, 1991.)

Professional Engineers and registered EIT's seeking employment may now place advertisements in the MPE, stating the details of position wanted, field of practice, years of experience etc., and providing a contact name, address, etc. The notice should be no more than 50-60 words in length.

It must be noted that the new column does not constitute an employment service by the Association. It is not to be used by employers seeking staff.

Advertisements should be delivered by hand, mail or Fax (942-3718) to the Association office by the 25th day of the month two months prior to the month of publication (i.e. by April 25th for the June issue, etc.)

Respondents are asked to contact applic directly.

ENGINEER-IN-TRAINING MEMBERSHIP JANUARY & FEBRUARY, 1992

C.A. Anderson
C.S. Bishop
W.H. Radbourne
S.A. Rana

NEW MEMBERS REGISTERED JANUARY & FEBRUARY, 1992

D.C.N. Alexander
R.J.P. Allard
B.A. Aubin
E.W. Batchelor
J.D. Brightly
T.K. Bruyere
G.W. Carter
D.R. Friesen
W.J. Hamlin
N.A.R. Hanks
D.M. Heinrichs
R.P. Kupchak
D.E. Lemke
A.F. Linden
D.E. Luprypa
R.M.J. Massinon
D.G. Mills
L.P. Mirecki
M.L. Noonan
A. Paquin
L.H. Phan
P.E. Quinn
M.S. Skynner
A.M. Vermette

WITH DEEP REGRET THE ASSOCIATION RECORDS THE PASSING OF:

J.L. Charles
C.P. Wright

President's Message

N.P. Feschuk, P.Eng.



In recent years across Canada, the right to self-governance of professionals has and is being re-assessed by government. In some jurisdictions drastic changes have taken place. Governments justify these changes by claiming that the professions are losing sight of their primary obligation to serve the public interest and instead are devoting their major efforts at protecting the economic and other interests of their members.

At our 1992 annual meeting the luncheon speaker, a lawyer, spoke on the necessity for the professions to preserve the privilege of self-governance and the need for the professions to have an independent body represent the profession in self interest matters so as to protect the privilege of self governance.

At the same annual meeting a representative of the Canadian Society of Professional Engineers spoke about CSPE and its attempt, unsuccessfully as a national body, to represent professional engineers in self-interest matters.

In the fall of 1991, at the CCPE semi-annual meeting in Ottawa, the right to self-governance was discussed and was the subject of a workshop. Prior to the workshop, a panel consisting of a lawyer, two professional engineers, and a politician spoke. All panelists were of the opinion that self-governance of the profession was the best vehicle for protecting the public interest. The politician, a nurse by profession, did not see a necessity of having a separate body represent the self interest of the profession. In the politician's opinion the two separate regulatory and self interest organizations were confusing to the public.

This raises the interesting question of whether the confusion in the public's mind is because it is not easy to distinguish between the self-governing and the self-interest organizations (does anyone know which of the two, the Manitoba Medical Association or the College of Physicians and Surgeons is the self governing body for doctors?) or whether in the mind of the public it makes no difference simply because it is the public's perception the two organizations are self-interest organizations.

Recently I received a letter from a member questioning why Council isn't doing something about supporting the creation of a self-interest body for professional engineers. Council's answer to the question is that the role of the APEM, as defined under the Engineering Profession Act, is to govern and regulate the practice of engineering in the Province of Manitoba in the public interest and that self-interest issues which do not service the public are not in the domain of the APEM. This includes assisting in the establishment of a self-interest organization.

With the study of the Law Reform Commission on the professions entering its final phase, it may become obvious very quickly whether the public sees the APEM as a self-interest group.

Some of the perceived issues which may be brought forward are:

1. The challenge by para-professionals for the right to practice within the scope of practice of professionals;
2. Unnecessary restrictions on the mobility of professionals both internationally and inter-provincially;
3. Slowness in recognizing the credentials of qualified applicants;
4. Limited access to the profession by immigrants;
5. Credibility with the general public;
6. Lack of communication with the general public and elected officials;
7. Lack of openness to public scrutiny (secrecy, lack of accountability) of self-governance processes.

It will be interesting to see what problems are identified by the Law Reform Commission Study and how these problems may be addressed within the concept of self-governance of the professionals.

Unfortunately the professions will be judged as one and the recommendations from the Law Reform Commission will in all probability be applied to all the professionals.

Although the APEM has recently revised the By-laws to provide for lay representation in the disciplinary process and has lay representation on Council, thereby adding more openness to the regulatory process, this may fall short of what is seen to be required. □

Letter to the Editor

"Do You Design Industrial Ventilation Systems?"

The following is a letter which addresses Industrial Ventilation System Design, and was sent by the ACEM to all known consulting engineers in the province. In an effort to ensure that all interested individuals have been invited, we ask that you publish this letter for your membership.

The Association of Consulting Engineers of Manitoba has discussed with Manitoba Labour the issue of proper design of industrial ventilation systems with the objective of ensuring that all designs are carried out by professional engineers licenced in Manitoba. The position presented to the govern-ment, as outlined in ACEM's position paper, was that designs prepared by qualified professional engineers would serve the owner better than designs produced by contractors or other non-professionals. This is due to the engineer's prime professional obligation to regard the physical and economic well-being of the public as his/her first responsibility in all aspects of work.

As a first step towards realizing this objective, the ACEM has agreed to prepare a list of Manitoba consultants who offer design services in this area, and to publicize the availability of the list via Manitoba Labour's 'Worksafe' newsletter. Manitoba Labour has asked that the list be as comprehensive as possible, including both member and non-member firms. Consequently, all known firms are being canvassed to determine their interest in being on this list.

For the present time, the list will include only the name, address, phone and fax numbers, professional engineer contact name and ACEM membership status for each firm. When distributed, the list would be accompanied by a pamphlet on the Qualifications – Based Selection System prepared jointly by the ACEC and Industry, Science and Technology Canada.

If your firm wishes to be on the list, please indicate so on your company letterhead, stating that your firm is qualified to undertake the investigation and design of industrial ventilation systems and including the particulars outlined above. An initial list will be prepared from responses received by April 15, 1992.

In preparing your response, please remember that the design of industrial ventilation systems requires special knowledge and experience, and that the APEM Code of Ethics requires that the Engineer 'shall advise on, design or supervise, only such projects as his/her training, ability and experience render him professionally competent to undertake.'

Thank you.

David Waldman, P. Eng.,
Chairman,
Indoor Environment Committee, ACEM

Get Those Dues In!

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

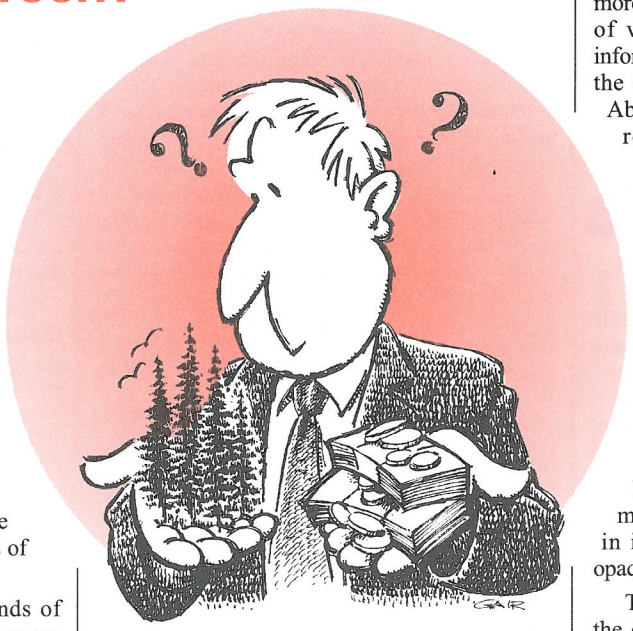
Council recently adopted a new policy regarding reinstatement to membership, which should provide members with plenty of incentive to get their annual dues in on time.

While not designed to scare members into settling their accounts, the new policy will doubtless have that effect, as the requirements for reinstatement to membership have become more rigorous.

Included in this mailing is a copy of the Association's new Policy on Reinstatement to Membership which is designed solely for the protection of the public and is effective immediately. Please read it carefully; and if you haven't done so already, **GET THOSE DUES IN!**

Should We Be Green?

By: H.S. Zbigniewicz, P. Eng.



These days, we are all bombarded with information on being more "environmentally friendly". People are becoming more and more concerned about how our consumption of products affects the environment. Members of your Publication Committee are equally concerned. Up to now we have printed our publication on new paper. In a recent meeting it was suggested that we consider printing our publication on recycled paper. However, before the Committee makes this decision, we felt the readership may want to have some input. The following paragraphs will be helpful, I hope, to you and to the members of the Publication Committee.

First we should understand what kinds of paper are contained in recycled paper. There are three types of paper that are recycled: mill broke, which is paper that did not meet quality standards; converter waste, which is trim from manufacturing paper products such as envelopes; and post-consumer waste, which is any printed paper used by consumers. Both mill broke and converter waste have been recycled for years. Therefore it is not enough to say that paper is recycled but it is also important to know how much of it is post-consumer waste. Most recycled paper contains not much more than 10% post-consumer waste. It should also be noted, although there are mills within Canada that use post-consumer waste, recycled paper comes predominantly from outside of Canada.

Recycling paper protects the environment in a variety of ways. To produce a ton of recycled paper, 4 102 kwh (kilowatt hours) less energy and 7 000 gallons less water are used than for virgin paper. Additionally, for every ton of paper that is recycled, landfill is reduced by 3 cubic yards and approximately 17 trees are saved. Recycling paper also produces 60 lbs less air-polluting effluents per ton. Although I have often heard that bleaching of recycled paper causes more damage to the environment than productio of virgin paper, I was unable to find information to substantiate this claim. Quite the contrary, Inter City Papers, a division of Abitibi-Price Inc., states that recycled paper results in less dioxin pollution than equivalent-quality virgin paper. Some recycled paper is not bleached at all, and the paper that is bleached requires less bleaching because it is made from previously-bleached paper.

Often the quality of recycled paper is questioned. We are all familiar with the recycled paper envelopes we receive that look like they have been made from a brown paper bag. Although this is recycled paper, it is important to remember that, like virgin paper, recycled paper may be made to any quality. Actually recycled makes for a better product because the fibres in it are shorter and yield softer and more opaque paper that curls less.

The final concern in using recycled paper is the cost. As recycled paper is used more and more and demand for it increases, the cost of recycled paper will decrease. As for our publication, the increased cost per copy for recycled paper is approximately a tenth of a cent (i.e. $350 per issue).

Now that you have read what I've found out about recycled paper, let us know what you think. Should we be printing our publication recycled paper? Maybe you have so information that I was unable to unearth. We are waiting for your input. Stay tuned for further developments. □

Mini-University – A Pilot Engineering Module

By: Northern Telecom

They wired circuit boards, constructed shortwave radios and built rockets and, considering the students were between 10 and 15 years old, that's pretty amazing.

This was all part of the University of Manitoba's Mini-university summer program, July 8 to August 30, 1991 in the engineering module Careers in Engineering, directed and sponsored by Northern Telecom. Taking a direct approach in helping Canadian youth get involved in science and technology, the corporation worked with the university to offer this trial module.

In total, approximately 250 girls and boys took advantage of the mini-university two-week course with another 200 children taking one portion or another of the engineering curriculum as part of their related studies.

Joe Wong, Northern Telecom manager, University and Manufacturing Initiatives, accidentally discovered the program in 1990 while visiting the university. What he saw was kids excited about science and about education. He checked other universities and found specific science guests but nothing as broad based and as popular as the 12-year old University of Manitoba's summer program.

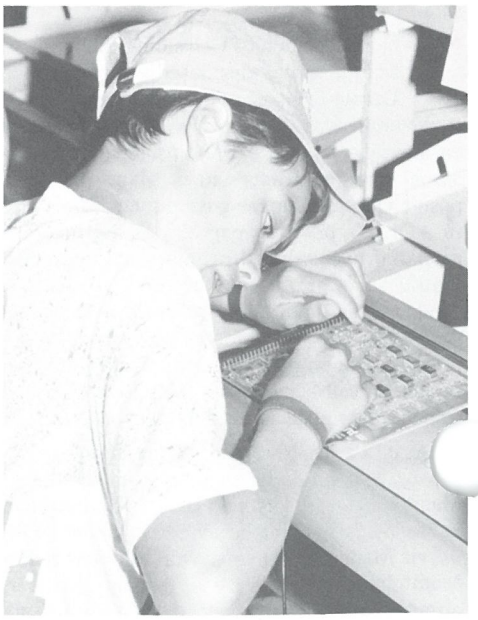
"Mini-university is done very professionally. They have all the skills and knowledge to pull it together and get the kids coming back year after year. That's a good sign of how successful it has been," notes Wong.

Fundamental theories were taught and then the young students got their hands dirty learning such things as how to take apart, rebuild and tune gasoline engines and designing and constructing rockets. Part of the module included a tour of Northern Telecom's Winnipeg plant, with a free barbecue luncheon added in.

Although waiting for more results, Wong says that the early response indicates the module has had great success, both in terms of enrollment and positive feedback from the kids. "We're looking at what worked best and what needs changing. Next year I'd like to see more Winnipeg staff involved".

A long term goal of the program is to share it across the country. "I wish we could duplicate it all over Canada. It's a great model," adds Wong. "Mini-university for kids is a nice little secret that should be better known."

University of Manitoba's Dean of Engineering, Dr. Garland Laliberte points out, "If 10 universities across the country run this type of engineering awareness program, a total of 50,000 students will have been exposed to engineering by the year 2,000." □



Student engrossed in mini-U programme.

What is CCPE?

The Canadian Council of Professional Engineers (CCPE) was established in 1936 as the Dominion Council of the Associations and Corporation of Professional Engineers of Canada to act as a national coordinating body for the provincial engineering licensing authorities.

Today, CCPE is the federation of twelve provincial and territorial associations which collectively represent more than 146,000 Professional Engineers nationwide.

CCPE's prime objective is to assist its constituent associations in coordinating their activities in such areas as licensing, professional practice, education and the establishment of minimum qualifications for practicing engineers. It also strives to improve the general public's understanding of engineering as a vital profession in Canada, and represents the best interest of the engineering community at the federal government level.

In order to ensure that it meets these objectives, CCPE has developed a number of programs which are delivered by its staff working closely with three standing committees of the Council.

The Canadian Engineering Accreditation Board accredits Canadian engineering education programs to ensure that they meet or exceed educational standards acceptable for professional engineering registration in the Canadian provinces and territories. Moreover, it ascertains equivalency and acceptability of accreditation systems in other countries and enters into bilateral recognition agreements with those bodies having acceptable systems.

The Canadian Engineering Qualifications Board is concerned with matters related to qualifications for entering the engineering profession - particularly for candidates who may have studied abroad and do not hold accredited degrees. CEQB prepares syllabi of examinations for use by the constituent associations in assessing academic qualifications. It also prepares guidelines on other requirements for admission to the profession in Canada.

The Canadian Engineering Human Resources Board is the statistical and economic information branch of CCPE. CEHRB conducts labour market surveys, provides information on engineers and engineering, and monitors such aspects of the profession as supply and demand trends and new disciplines. It also maintains a human resource database known as the Canadian Engineering Human Resources Inventory.

CCPE provides a central engineering information service, and manages a national insurance program that is offered to all registered Professional Engineers. The Council also addresses itself to public issues which impact upon the profession including research and development, continuing education and the role of the engineer in the present and future society. CCPE is the representative of the profession at national and international forums. □

Education:
A "Manitoba-Made" Challenge

By: V.L. Dutton, P. Eng.

Perhaps you heard the replay of the Morningside interview on September 23, 1991. With a panel of three citizens, Mr. Gzowski led a discussion about today's educational system. While listening to these people talking about the failures and successes of Canada's schools, I recalled that, thanks to the team of professors headed by Dr. John Graham, our profession had made a small contribution to Manitoba's High-School Review Panel which culminated in the report "Challenges and Changes" that was issued in September, 1988.

" ...you are being given an opportunity to do something more than mutter about those incompetent teachers, or trustees, or book-publishers."

My memory also brought forth a very informative Free Press article written by Mr. Lionel Orlikow this past summer. The article made reference to the efforts of the Save Our hool Committee in Cartwright. Few will be orant of the successes of this group of citizens their struggle to maintain a humane and effective educational system for their children.

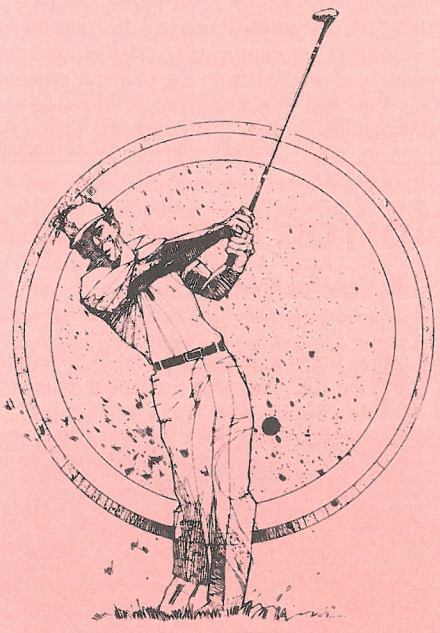
Then I spotted the Free Press article (September 12, 1991), "A textbook case of misinformation", that I had clipped to send to a friend. The author, Mr. Macek, is a Provincial geologist and, as such, is obviously concerned about the quality of education our young people are receiving. Mr. Macek's article was an analysis of the new "Manitoba-made, 458-page textbook entitled Health Science Dimensions 7" which replaces "...an old Manitoba-made textbook entitled Science Indoors and Out, issued in 1929 and reprinted in 1948..." Mr. Macek's criticisms of the new textbook were many and penetrating, although a friend of mine, who teaches science, told me that he felt he could "live" with the new book in spite of its weaknesses.

The Manitoba Professional Engineer has carried several articles dealing with various aspects of education (President McDonald's Message in February, 1991, Mr. Lucas' article in the same issue, and the lead article in the August, 1991 issue, are three examples) in an attempt to keep you informed about what is happening (or not happening) in our educational system.

Now you are being given an opportunity to do something more than mutter about those incompetent teachers, or trustees, or book-publishers. Here is the problem: You have been asked to participate in the educational process at the Cartwright Community Independent School for a week in order to give the Grade 10, 11, and 12 students some enrichment of their studies. Please let us know what you would do with this week and at what time of the year you would like to be with the students.

We'll try to publish your replies and, if space becomes a limiting factor, we'll send your proposals to the people at Cartwright and to Mrs. Vodrey. As our French-speaking members would phrase it, "allez-y!" □

Attention, Golfers!



APEM Annual Golf Tournament
Date: Wednesday, June 3, 1992
Place: Selkirk Golf & Country Club
Mark Your Calendar!

Doug Chapman, Councillor

By: B.A.K. Danielson, P. Eng.
H.S. Zbigniewicz, P. Eng.

One of the APEM's newly elected Councillors is Doug Chapman, a Planning Engineer in the Major Transmission Planning Department of Manitoba Hydro.

Doug graduated from the University of Manitoba with a B.Sc. in Electrical Engineering in 1968. In addition to receiving the Gold Medal, he received an Athlone Fellowship and went on to study at Imperial College, University of London in England. He was awarded a Ph.D. in Automatic Controls in 1973 and returned to Winnipeg where he began his career at Manitoba Hydro.

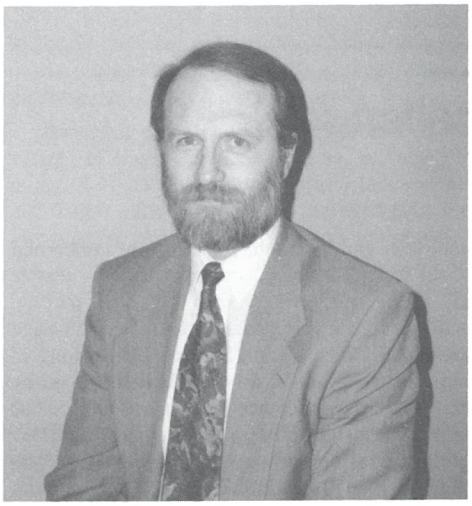
Doug currently works as the Principal Planning Engineer for HVDC (High Voltage Direct Current) and System Control. Major projects that he has been associated with include Long Spruce, Limestone and Conawapa Generating Stations as well as the Bipole II and III transmission systems. In the past Doug has led an EPRI (Electric Power Research Institute) sponsored project on computer modelling of HVDC systems, through the Manitoba HVDC Research Centre.

Doug has long been active on the Salary Research Committee. He is currently a member of the Board of Examiners and of the Executive Committee and he serves as liaison councillor to the Research and Development Committee. As a councillor, he is concerned with raising Admissions Standards while keeping the APEM standards consistent with the standards of other provincial associations. He would also like to ensure that recommendations and decisions made by engineers on engineering matters are kept separate and distinct from the political process. Doug feels that engineers should be concerned about increasing their public profile, including promotion of the fact that the APEM exists for the protection of the public.

Another professional association which Doug has been active in is the IEEE (Institute of Electrical and Electronics Engineers), serving in various committees dealing with HVDC. He is also an Adjunct Professor at the University of Manitoba.

Outside of the engineering community Doug has served, in the past, as president and executive member of the St. Vital Immersion Parents Association, and has been a member of that group since his children started school. His hobbies include woodworking and computers.

Doug and his wife Monica, whom he met while studying in England, have two teenage sons and enjoy spending time at their cottage at Laclu, near Kenora. □



APEM Councillor Doug Chapman

Do You Have Any Archival Material?

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

Mr. Andrew Wilson, a Past-President of the EIC, has been appointed Secretary for Public Awareness and History in Archives of the EIC Federation. He advises that the Federation is in a position to accept material which in turn can be filed in the Archives.

He has two approaches to his enquiry. First, he wishes to know if any persons who may have been associated with a branch or headquarters operation has within their possession archival material, such as correspondence, photographs, minutes etc., which they may be prepared to give to the Public Archives, Ottawa or Provincial Archives. He would like to know the extent of the material and, if possible, the estimated cost if it is to be sent to Ottawa. Second, he wishes to know whether you know of an institution or corporation which might have had EIC-related documents. Mr. Wilson would be interested in contacting these organizations to further explore the possibilities of obtaining their information.

Mr. Wilson may be contacted through EIC headquarters - 280 Albert Street, Suite 202, Ottawa K1P 591, telephone 613-232-4211 - or at his residence - 613-820-7044.

The writer, as Chairman of the Life Members Organization of the EIC, has had several discussions with Mr. Wilson on archival material. Mr. Andrews' approach is to maintain some of the momentum that was generated in the 1987 - 100th-year anniversary of the profession by collecting and saving, rather than researching a particular phase or discipline at this time.

The writer would welcome further enquiries or comments by contact through the APEM office (942-6481) or his residence (888-9396). □

Students Present Design Projects

By: J. Kostyniuk, P. Eng.

Communication of technical concepts may have one of two effects on people: it can cause sleepiness, or arouse enthusiasm. The response depends on how well the communicator presents the information to his/her audience. Paring down a large piece of technical work to two or three significant points and selecting the appropriate level of technical detail can be a challenge; but good written and oral communication skills offer great rewards.

"Paring down a large piece of technical work to two or three significant points and selecting the appropriate level of technical detail can be a challenge; but good written and oral communication skills offer great rewards."

Dr. John Shewchuk has been endeavouring to develop good oral and written communication skills in his students for several years in the Mechanical Engineering Design course. T success of this course at the University Manitoba is due to the involvement of many people, including guest speakers, company representatives with an engineering need, professional engineers, professors, teaching assistants and, of course, students. The course teaches students what to do with an engineering design after the number-crunching is over.

Technical projects, solicited from industry, are assigned to fourth-year engineering students to form part of their curriculum. Students work in teams and meet with industry representatives to develop designs. Students use written reports and oral presentations to demonstrate their knowledge in lieu of written exams.

This year, 16 projects were suggested by industry and used as design projects. Industry design projects are also used for thesis topics. Projects ranged from an automatic nameplate loader to a beverage server for quadriplegics.

The evening of oral presentations, November 19, 1991 was humming with activity as students presented their designs to an audience of professional engineers and industry repre-sentatives. Innovative designs, visual aids and spontaneous questions made for an enjoyable evening. Design suggestions offered after the presentations were incorporated prior to forwarding the reports to the sponsoring companies.

The interaction of the University and indus is an important bond to develop and maintain. The Mechanical Engineering Design course, culminating in the evening of oral presentations, is a good example of fostering interaction between the Faculty of Engineering and Manitoba's professional engineering community. □

True Challenges in Engineering

D.S. Jayas, P. Eng.

We are all continually being asked by neighbours, friends and fellow professional engineers, "What do you do?" When I answer that I am an agricultural engineer, most people appear lost and further explanation is required. If you do not know what agricultural engineers do, then you may find the following brief glimpses into one agricultural engineer's challenges educational.

Agricultural engineering has traditionally applied engineering sciences and design principles to the solutions of problems associated with agricultural production. This may have involved designing structures and controlled environments for the production of plants and animals or the storage of food; equipment for optimizing the production of crops; or irrigation and drainage systems for farms. Over time, agricultural engineers have been able to eliminate much of the menial labour required of many agricultural tasks while making dramatic increases in the efficiency of production. In the more recent past, they have begun applying their engineering skills to other bio-resource based problems related to tree seedling production for reforestation, design of facilities for fish production, and food processing. Interest in food processing has grown to the point where the University of Manitoba is planning to offer an undergraduate degree program in Food Engineering (to be elaborated upon in the next issue of MPE).

Agricultural Engineers work at the interface between engineering and biology. Almost all of their activities have a relationship to and an impact on the environment.

Following are a few examples of typical challenges faced by this practical agricultural engineer. While these examples do not define the full breadth of the profession, it does show a reasonably wide range.

Both a water tank and a grain storage bin are used for storing material. The design of a water tank deals mainly with hoop stresses. Design of grain storage bin deals with hoop stresses and, in addition, with in-plane friction forces carried by the bin wall. Further to that, all the design properties of the grain, and the resultant loads, change when the moisture content of the grain changes, when the grain is attacked by fungi and insects, or during bin emptying.

Designing an industrial facility to handle granular material or grain may appear the same on the surface, but the potential for development of insects and microorganisms in areas of accumulated "debris" forces the agricultural engineer to pay very close attention to the cleanability of the equipment for safe and healthy food. Biological activity has a way of destroying functioning equipment, and reducing the value of stored grain to almost zero.

Modelling heat transfer in machine or structural components is challenging enough for classical conditions. The addition of the further complexities of heat and moisture generation by stored products (which are alive) and their effect on thermal and physical properties make the modelling of heat transfer in grain bins truly challenging and fulfilling.

The use of robots and computer vision is flourishing in most industries, including the agri-food industry. For most industrial robots, the designer has to deal with definable, uniform-size components. Agricultural Engineers consider, along with the physical properties of the objects, biological variability of materials. In one case, a robotic system is required to disassemble nonuniform animal carcasses into aesthetically appealing sizes, which meet the government health regulations and consumer demands. And think of the complexity of utilizing computer vision to identify and classify each item in a mixture of wheat, barley, oats, weed seeds, soil particles, insects (both dead and alive) and other miscellaneous debris. Imagine the challenge of picking green pea pods, at an appropriate stage of maturity, from a green leafy background, using computer vision and robots.

These are some of the true engineering challenges which this particular agricultural engineer has faced. In brief, agricultural engineers deal with engineering problems as well as the complexities of the living world. □

Marathon Relay: Team Engineering

By: M.D. Vanderpont, P. Eng.

There is only one way to get a coveted PROFESSIONAL ENGINEERS – MANITOBA track top. Only by contacting your Sports Committee can this exceptional garment be yours. There is a catch, though.

In order to earn the privilege of owning this crown jewel of sporting wear, this Holy Grail of running rags, you must first complete the rites of passage.

Step one is a phone call to me. After that, there's no turning back. You will be required to fill out a registration/waiver form and write a cheque for about $28. Then the travails begin.

You will be introduced to four strangers (probably engineers; what could be stranger?). You will next be compelled to exchange names, phone numbers and commit their appearances to memory.

Having withstood this test of intellect and financial solvency, you will be handed your very own engineering track top to care for and cherish. Hold it. You will be permitted to don your precious garment for only a few brief moments while photos are taken. Then you must venture off alone to prepare for the great event.

On Fathers Day (June 21st) you will overcome your fears and be drawn mysteriously to your appointed exchange station. There you must wait uncertainly for that stranger whom you met so briefly and what seems like so long ago. You wait. You wait while hundreds of others run by, oblivious to your anxiety. You search the crowds in vain for that one spark of recognition. You try to imagine what that stranger you met dressed in office garb would look like in shorts, all sweaty and puffing from exertion.

Suddenly, just when you're convinced that no one you know is showing up and it's safe to go home, your extremely relieved team member gasps out, "here", and passes the wringing wrist band.

The next five miles is a blur of cheering crowds, ice and sponges at aid stations, and concerned looks from St. Johns Ambulance volunteers. You keep running as the theme from Chariots of Fire rolls around in your head.

An exchange station, the frantic search, rising fear that your next runner didn't show, relief, a gasped "here", and it's over.

You have participated in the 1992 Manitoba Marathon Relay and have earned the right to proudly wear the exclusive "PROFESSIONAL ENGINEERS – MANITOBA" track top. Try it, it's fun. For a more simply stated explanation of what the Manitoba Marathon and your Sports Committee can do for you, please call me at 284-0580. Literary criticisms grudgingly tolerated. □



Council Reports

January 13, 1992

By: V.L. Dutton, P. Eng.

AT WHICH COUNCIL CONSIDERS JOINING WITH GEOSCIENTISTS

Perhaps the most important feature of the January meeting of Council was not the meeting itself. For a full two hours prior to the meeting, the new members of Council participated in a "training session", given by one of the people who keep the wheels rolling - Shirley Matile. It augurs well for our Association to know that new councillors are given this kind of help as they settle into their terms in office.

The meeting itself went smoothly, as befits the first meeting of the new year. It may also have been due to the careful preliminary work of the Executive Committee, headed by our new President, Pat Feschuk. The usual material - new members, licensees, etc. – was handled with dispatch. The details may be seen at the Association offices. You may also wish to check the balance sheet at the same time.

Ray Scouten is now chairman of the newly-created Discipline Committee. Under his chairmanship, the members will be developing a manual of policies and procedures which will be of particular use to future members.

As a result of decisions made by the Canadian Geoscience Council, the geoscientists in Manitoba have been investigating the possibility of joining with us as the geoscientists have already done in Alberta, the Northwest Territories, Newfoundland, and British Columbia. Dr. Bill Brisbin, who is a member of this Association, appeared as a delegation to speak to the Draft Terms of Reference for a joint committee of engineers and geoscientists to work on such topics as the amendments that will be needed to our Act, a suitable name, and so on. Council approved these Terms. Councillor Anderson will chair this joint committee. Ms Matile and Dr. Brisbin will serve on the committee with Dr. Brisbin being authorized to choose other three members of the committee.

After discussion, Council amended and adopted a new Policy for Reinstatement to Membership. You will see an explanatory article on this subject elsewhere in this issue of the MPE.

In an attempt to help our "out-of-town" members penetrate the Perimeter-Curtain, Council has been promoting the concept of Chapters throughout the Province. Establishing a constitution for a Chapter is now detailed in a guide which will be distributed to the existing chapters and to the other members living outside of Winnipeg.

To those of you who have just finished placing your names on the Holidays List for this coming summer, you will be pleased to know that some long-range planning is also taking place in Council. Councillor Anderson is heading the ad hoc group that has been established to develop a plan that will lead to better administration of your Association. We will hear more about this committee and its plans but, for the present, each chairman of a standing committee should begin to think about the "action plan" for his committee.

The meeting ended with a fairly lengthy consideration of a letter from Rick Huggins, P. Eng. Mr. Huggins is one of those whose well is no longer usable because of the contamination allegedly caused by the Rockwood Plant of Bristol Aerospace. Mr. Huggins objects to the awards that the Association made to Ralph Bullock, Chief Engineer of Bristol Aerospace, and to the company itself. You will recall that these awards were made at our Awards Luncheon last October.

Councillor Hoemsen, a member of the Awards Committee, pointed out that the decision concerning the awards was made several months before the Rockwood case became known to the public.

It was not an easy decision to reach but, eventually, Council decided not to take back the awards and to ask our President to "handle this matt verbally" within guides that they established.

February 10, 1992

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

AT WHICH COUNCIL GOES FORWARD WITH A NEW LOGO AND ON TO LONG-RANGE PLANNING

With all but one councillor in attendance, Council started into a rather routine agenda and made quick time through the preliminary items. An observation from the financial statements: fees for the practising engineer are coming in somewhat slower than usual - perhaps a sign of the financial times. However, fees for non-practising engineers and temporary licences are being received more quickly. In the case of the non-practising engineer, this may reflect a retirement trend.

Closer to the operation of the Publication Committee, it was noticed that there is a significant overrun on budget which may be due to several 16-page issues: a matter for the committee to review and monitor.

Licence Renewal

A renewal of the licence for the engineer who was responsible for the design of the massive structure of the temporary stands at the recent Grey Cup Game was noted with interest.

Reinstatement to Membership

An issue is the conflict of assuring competence versus facilitating the mobility of engineers within Canada, and for that matter on a global basis. When an engineer who was previously a member in good standing of APEM wishes to be re-registered, the policy would be to have a test of competence: the routine examination and an evaluation based on references. On one hand, competence must be established to safe-guard the public interest; on the other hand, is this restraint of mobility the setting of one Association standard against another? Meanwhile, it is interesting to note that the European community including England is now recognizing the European Engineer (EUR ING) and this designation is expanding into Eastern Europe.

Communications with MANSCETT

Council heard a report on discussions with MANSCETT regarding the establishing of a joint committee to recommend ways to provide for licensure of technologists under the Engineering Profession Act. It is a difficult issue to resolve; however, smaller numbers may be more productive in ongoing discussions.

The Past President Bill McDonald and Registrar Dave Ennis were authorized to represent APEM on the joint committee.

Logo

The day of achievement has arrived as APEM now has a stylized APEM Logo. The colour: burgundy red. Approved by all present and all questions seemingly satisfactorily answered, Council moved on with an apparent sense of success by the Public Relations Committee to bring about a new printed image.

Long-Range Planning

Perhaps encouraged by their forward-looking logo, Council considered a presentation by Carl Anderson on the first draft of the long-range planning document which would lead to action plans for the next twelve months. March 9th, the traditional date of the Council meeting, will start with a morning session to finalize the draft which should then lead to Council, committee and administration starting on their individual action plans. With a slight pause for lunch and in the interest of cost-saving, Council will then proceed with the regular Council meeting.

EIT/Log of Experience/Mentor

As previously mentioned, the EIT By-law, a previously adopted poli appears to have a contradiction wherein an applicant in a non-supervised position applies for EIT membership which cannot be granted to him. To address this increasingly occurring situation of unsupervised engineers in their training periods prior to registration, Council had adopted the use of the Log of Experience program, whereby a record of the applicant's

Continued on page 11

Science and Technology: Framework for Action

A national Council of Science and Technology Ministers, concerned about Canada's position, globally, with respect to science and technology, and about general public awareness of the value of science and engineering, recently prepared a National Science and Technology Framework for Action.

This document identifies the challenge as being a strong national commitment to improving Canada's knowledge and skills base in science and technology if it is going to compete successfully in the international marketplace of the 21st century. It calls for more active involvement, consensus building and a higher level of collaboration among all science and technology "stakeholders", without compromising crucial support of basic, mission-oriented and social science research and regulatory processes. It presents the goals and underlying principles inherent to our success, and then builds upon them to develop elements for implementation.

"...the challenge...a strong national commitment to improving Canada's knowledge and skills base in science and technology if it is going to compete successfully in the international marketplace of the 21st century."

The three main goals identified are as follows:

1. Increasing private-sector, market-driven and applied research and development through individual leadership, partnerships, investment, etc.
2. Enhancing the innovation, acquisition, transfer, diffusion and adoption of best-practice product and process technologies in the Canadian manufacturing, resource and service sectors.
3. Stimulating growth and creating enterprises in Canada, particularly small-and medium-sized businesses, using science, technology and innovation to produce and successfully market higher value-added goods and services nationally and internationally.

To enhance research and development (R&D), the Council proposes that initiatives be undertaken to enhance the level and effectiveness of collaborative R&D, increase technology research, improve industry infrastructure, and identify future market opportunities.

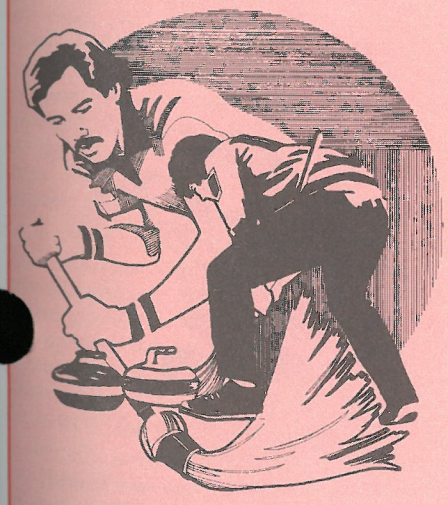
To stimulate innovation, technology transfer, diffusion and adoption in industry, the Council proposes that initiatives be undertaken to ensure government procurement practices support regional technology development and supplier initiatives, examine investment and taxation issues, encourage companies engaged in natural resource activities to undertake R&D and innovation, stimulate environmental R&D and initiate adoption of specific measures for pollution-reducing technologies, enhance Canada's international collaboration on technology and knowledge transfer, develop more university-industry and college-industry linkages, help industry, particularly small and medium-sized businesses, to acquire and adapt to advanced technology, and improve the dissemination of technology transfer, patent data, R&D intelligence, science and technology (S&T) trends and national standards.

To develop human resources, the Council will forward its perspectives on S&T human resource requirements to the Council of Ministers of Education, Canada, and develop industry, S&T work force and education-related proposals for submission to the Council of Ministers of Education and the federal government, and identify initiatives to be taken.

To promote a science culture, the Council proposes that initiatives be undertaken to make National Science and Technology Week a major annual co-operative event, develop public awareness and marketing strategies that encourage professionals and students to consider business opportunities and careers in science, technology and engineering, improve media coverage, and recognize outstanding teachers and counsellors. □

How About An Engineers' Curling Club?

Are there any members out there interested in forming a once-a-week curling club next season? If enough interest is shown, steps will be taken to put something in place. Although the exact nature of the league would be determined by general consensus, probably we would set up as a mixed "fun" league with at least one Professional Engineer on each team. If anyone has any thoughts on the matter, or is interested in joining, please call Murray Vanderpont at 284-0580 or write: c/o UMA Engineering Ltd., 1479 Buffalo Place, Winnipeg, Manitoba R2T 1L7.



"The Devil Made Me Do It"

By: V.L. Dutton, P. Eng.

Perhaps you read Mr. Dafoe's article in the Winnipeg Free Press about a statue of Louis Riel, in Saskatchewan, that annoys some people because the sculptor has clothed Riel in an indecently-short "toga".

For some reason or other, I began to think of the fountain with its statue of Petit Mannequin Pisse in Brussels, a statue that you may have seen yourself. For those who haven't, the story is that an infant prince escaped his nurse and wandered off "into the bush" surrounding the castle. The King, much distressed, swore that he would erect a statue to the little lad in whatever pose the boy was in when found. A search was undertaken and the boy was found, stark naked, urinating - which, of course, is the ideal pose for a fountain.

Presumably because of the jet of water in the Brussels fountain - my "inner eye" next visualised the photograph and diagram accompanying Mr. Lawlor's very interesting article about the Red River Water Arch in the June,1991 issue of the MPE. Then, in that flash of creativity that engineers experience from time to time, this idea came to me for a statue that would turn Winnipeg into a tourist centre as no new hockey arena ever could.

The idea is to build a latter-day Collosus of Rhodes which, as you will remember, was one of the seven wonders of the ancient world. Winnipeg's Collosus would stand astride the James Avenue Pumping Station (which would supply the necessary jet of water) doing "what comes naturally" across the Red, just like the little prince in Brussels. □

The Missed Third Dimension

By: D.S. Jayas, P. Eng.

The problem related to feeding the increasing world population has been treated by the policy makers and the researchers in the world in two dimensions viz world population and increased production of food materials. There is a third dimension to this problem: improvements in grain storage techniques.

To increase food production, considerable resources have been expended to produce high-yielding varieties of various crops. While increases in yield have undoubtedly been beneficial to society, the potential for increasing the supply of quality food by reducing losses in storage has not been fully explored. Resources expended in reducing the losses of produced food can reap considerable benefits to society.

It is commonly agreed that losses in storage can be as high as 30% in many parts of the world. If this loss was eliminated, the supply of food in these areas would increase by up to 43%. Creating such a large increase in food supply through the development of high-yielding varieties seeded on a limited land resource is difficult and very time-consuming, if not impossible.

Agricultural Engineers at the University of Manitoba and Biologists at the Agriculture Canada Research Station, Winnipeg are working together to solve many grain storage-related problems. This marriage between engineers and biologists is a must, because stored grain is a biological product, and grain losses result from the interactions of insects, mites, and microorganisms with such physical variables as temperature, relative humidity, and intergranular air composition.

Some of the noteworthy achievements of this group have been the development of an emergency storage bin, a device to catch insects in stored grain, a device to measure the in-situ moisture content of grain, a device to detect incipient spoilage of stored grain, guidelines to design and operate grain-drying systems, and mathematical models for predicting the moisture content and temperature of the grain. Some of the problems the group is currently involved in solving are: quantification of the respiration rate of insects, mould, and grain; determination of the moisture content of grain in equilibrium with surrounding air; killing insects by altering proportions of carbon dioxide, oxygen, and nitrogen in the intergranular air; and the measurement of basic engineering properties for the improved design of storage systems. □

Mel Cornell – "Lay" Councillor

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

Mel Cornell is a "lay" councillor, who has been appointed by the Provincial Government to serve on our APEM Council. "Lay" councillors are appointed because they can offer a different perspective to Council. Mel, with his education in commerce and mathematics, his many years with the Provincial Government (1969-81, and currently with the Department of Industry, Trade and Tourism), and his work with companies in the high-tech electronics and computer sectors, is right at home with engineers.

Mel feels that Council should develop a vision for the future of the profession, to highlight the major role engineering plays in all sectors of the economy. Mel is acutely aware that all the advances within the automotive industry, with communications satellites, and with entertainment innovations such as compact discs – are brought to us by engineers. Mel strongly believes that the public perception needs to be changed to more closely approximate the reality of the engineering profession, and the contribution engineers make. He feels Council should be more advocacy - oriented, to promote the engineering profession to the public; to change the public perception. Councillor Cornell recently stated:

"Somebody needs to speak for the entire profession. It is not enough in this day of special interest groups and professional lobbyists to merely concern ourselves with regulatory and protectionist issues. Council should look at the much broader picture impacting on the economic well-being of this province."



APEM Councillor Mel Cornell

Mel Cornell is regarded by his clients and colleagues as an innovator and a motivator. One of his initiatives involves the Department of Industry, Trade and Tourism, APEM and elementary school science teachers, and it's called "A World in Motion". The American Society of Automotive Engineers originated the program, and Mel thought that Canadian students could benefit as well. So far, the students here just love the "hands-on" experiments.

Now, I wonder, what program will Mel come up with, to educate the Canadian public about engineers? □

FESTIVAL '92
of Engineering
du génie

The first ever National Engineering Week - Festival of Engineering '92 - will be held across Canada April 6-11, 1992.

The theme of the Festival for 1992 is "Engineering Our Future".

The official logo is the Heart, Mind and Vision graphic, first used to identify the engineering centennial in 1987.

The event's mascot is an as yet unnamed beaver.

A number of events will be taking place across Canada to increase the public's awareness of the profession, and to encourage students to consider engineering as a profession.

The festival is being sponsored by the Canadian Council of Professional Engineers, the Association of Consulting Engineers of Canada, the Engineering Institute of Canada and the Canadian Academy of Engineering.



Professional Development

Time for Ingenuity

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

In these "lean and mean" times, here is some good news for engineers: we are no more illiterate than any other profession. So says Jane Casey, a communications consultant who has worked with engineering students at the University of Manitoba over the past few years, and who spoke to us at our Professional Development Breakfast Meeting on February 18th. Ms Casey challenged us to contemplate the image of engineers, to see that we're really no different than any other profession. In fact, we engineers generate a great deal of written work to document our projects, and can spend about 50 percent of our time on written reports.

To stay competitive, we have all learned how to write in a way that is "user-friendly" (or, should hasten to do so). Otherwise, we run the risk of alienating and dissatisfying our clients. With a clearly-formulated purpose, with the "big picture" in mind, we can effectively send our message to our clients. That is now a very important part of our jobs: to effectively communicate with others.

In this technological era, we will be called on to share our knowledge and expertise with the public. It will be even more essential that we communicate in a clear, concise and convincing fashion. It is now time to dispel the old myth about the illiterate engineer, and to let our ingenuity shine through.

(The French have this one right - ingenier means to tax one's ingenuity, to employ all one's wits; ingenieur means Engineer. Let's all forge ahead under this banner!) □



Jane Casey, Communications Consultant

News From Other Associations

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

Alberta

The use of downhole video cameras is one of the most exciting technologies to unfold in the last few years. While manufacturers have tried for many years to develop video cameras rugged enough to operate in the downhole oil field environment, proper technology has only recently appeared. In the past cameras, couldn't handle the high pressures and temperatures, and electric lines weren't adequate for transmitting large amounts of data from substantial depths.

Today's high-temperature, high-pressure video cameras, conveyed on coiled tubing, are now allowing operators to take the guesswork out many operational problems. When one North operator ran into trouble with a gas well recently, he ran a camera down 3,333 meters. There he discovered that a boulder had blocked the open hole below the casing.

Once he knew the exact cause of the problem, the operator took appropriate remedial action. In all likelihood the video survey saved the operator considerable time and expense in dealing with the problem.

British Columbia

A small robot built by a team of Simon Fraser University engineering science students clinched a pair of top prizes at a national Micro-Mouse competition held recently in Toronto, beating out rival MIT for first in technological excellence and taking second for the best overall design.

About 30 computer-driven robots from Canadian and USA designers competed in the contest. It involved navigating through a 10 ft. x 10 ft. square maze. SFU's "Micro Giraffe" is named for its long neck, made from an aluminum tube with holes in it like the spots on a giraffe. The designers decided to use actual vision as a means of seeing the maze from above, so they made the neck higher and installed a camera device, a seeing eye on top. The camera, taken from a Fisher Price kiddie camcorder, produces the equivalent of a grainy black and white photograph. This is mathematically processed by computer, enabling the "Micro Giraffe" to see into the maze wall corners.

The team was awarded the gold medal for technical excellence and a silver medal for best overall design. It was SFU's first entry into the annual event. □

APEM Participates in Careers Symposium '92

By: R.J. Eden, P. Eng.

This year engineering was once again featured as a career option at the Careers Symposium '92 held at the Winnipeg Convention Center on February 10, 11, and 12. APEM, the University of Manitoba Engineering Society (UMES), and the Society of Automotive Engineers (SAE) all took an active role in helping to make this year a success.

An Engineering booth was manned by volunteers comprised of engineering students, professors, and members of SAE. Various exhibits (a small robot, a prototype car, and testing equipment) were also featured at the booth to allow some hands-on activity for the students. This year the backdrop also exhibited numerous pictures illustrating where engineering has been used by industry to advance technology in the province. These pictures were supplied by the Department of Industry, Trade, and Tourism.

In addition to the booth, four one-hour seminars were also held where Professor Glanville, Director of Admissions for the faculty, and an APEM member discussed university life, why they chose engineering as a career, and what it's like to be a professional engineer.

Considering the noted drop in first-year engineering registration, this year could be considered a success due to the amount of interest shown by the students attending this symposium. □



Council Reports

Continued from page 8

undertakings is kept, and the applicant is required to become an EIT member (which would be in contravention of the By-law). There is also the mentor program which has been questioned from the viewpoint of the mentor's professional liability to himself and to the Association. This remains an unresolved problem for now and will likely become an "action" project. It is an interesting problem which reflects the changing place of the engineer in the competitive market place of today, at home or abroad.

Cross-Border Professionalism

On a closing note Dave Ennis spoke on behalf of his and President Feschuk's recent visit to the National Society of Professional Engineer's meeting in the State of North Dakota at Minot, a State organization of fewer members than Manitoba but with similar problems. □

Wiegand Award for Canadian Excellence

This annual Award seeks to recognize outstanding contributions to humanizing science, technology or engineering by Canadians or permanent residents of Canada. The recipient will receive a cash award of $2,500 at the University of Waterloo in the Fall of 1992. Travel costs will be paid for by the Wiegand Foundation. The previous recipients are Dr. David Suzuki (1990) and Dr. Ursula Franklin (1989), but the Wiegand Award Committee would like to emphasize that it is interested in nomination of people in all stages of career development and from all walks of life.

NOMINATIONS

Send today for a nomination package which includes a complete description of the Award and a checklist of the information required from the nominator and the nominee.

Deadline for submissions: 30 May 1992.

SUBMISSIONS/INFORMATION

Wiegand Award Committee
Centre for Society, Technology and Values
University of Waterloo,
Waterloo, Ontario N2L 3G1
Contact: Kathy Sharpe
Phone: (519) 885-1211, ext. 6215
Fax: (519) 746-4791

Annual Dinner a Success – Again!

February 6th was the date; the For Garry Hotel, the venue.

Approximately 70 Engineering students gathered to learn from President Feschuk and Admissions Director Matile about APEM and registration. They were subsequently joined by some 30 students and a hundred or so engineers for cocktails, dinner, a few awards and a thought-provoking presentation on ethics by Dr. Art Schaefer.

Stay tuned for a detailed account of this event in our June issue. □



Coming Events

Canadian Society for Civil Engineering
EMERGING CONSIDERATIONS FOR SAFE DRINKING WATER IN CANADA

Full day Seminar - April 6, 1992
Winnipeg, Manitoba
Speakers: Mr. Steve Bonk, P. Eng.,
Executive Director C.W.W.A.
Contact: Doug Kramble
Telephone: (204) 956-0980

CONCRETE REPAIR AND PROTECTION

April 13-14, 1992

CONCRETE FLOORS AND SLABS ON GRADE - SPECIFYING, DESIGNING & CONSTRUCTING

April 15, 1992
Winnipeg, Manitoba
Contact: Professor Hira Ahuja, Director,
Continuing Education Division,
Technical University of Nova Scotia
Telephone: (902) 420-7510

INTERNATIONAL SYMPOSIUM ON STORED GRAIN ESCOSYSTEMS

June 7-10, 1992
Winnipeg, Manitoba
Contact: Digvir Jayas, P. Eng.
Dept. of Agricultural Engineering
University of Manitoba,
Winnipeg, Manitoba R3T 2N2
Telephone: (204) 474-6292
Fax: (204) 275-0233

"SOFTWARE WORLD"
Conference and Exposition

April 14-16, 1992
Toronto, Ontario
Contact: Digital Consulting, Inc.
204 Andover Street
Andover, MA 01810
Telephone: (508) 470-3880
Fax: (508) 470-0526

CSCE – Annual Conference
BRIDGE ENGINEERING

May 26-29, 1992
Quebec City, Quebec
Contact: J. Normand,
Ministere des Transports
200, Dorchester Sud, Quebec
Telephone: (418) 643-6906

ARTIC AND MARINE OILSPILL PROGRAM (AMOP)
15th Technical Seminar

June 10-12, 1992
Edmonton, Alberta
Contact: Susan Clarke,
Environmental Protection
241 Cite des Jeunes Blvd.
Hull, Quebec
Telephone: (819) 953-5227
Fax: (819) 953-9029

ALTERNATIVE-FUELED VEHICLES CONFERENCE

June 30-July 1, 1992
Milwaukee, Wisconsin
Contact: John P. Klus, Dept. of Engineering
University of Wisconsin-Madison
432 N. Lake Street
Madison, WI 53706
Telephone: (800) 462-0876

AUTOCAD TRAINING
Ongoing Courses

South Winnipeg Technical Centre
Professional Level I (5 days)
Intermediate Professional Level II (5 days)
Customization and Integration Level III (5 days)
Advanced Modelling Extension (2 days)
Auto LISP (5 days)
Auto CAD 3D (5 days)
Release II Update (3 days)
Contact: Linda Mackenzie
South Winnipeg Technical Centre
130 Henlow Bay
Winnipeg, Manitoba R3Y 1G5
Telephone: (204) 989-6511
Fax: (204) 488-4152

ROSTER UPDATE/CHANGE OF ADDRESS NOTIFICATION

Full Name _____

New Address _____

City _____ Province _____

Postal Code _____ Country _____

Employer _____

Position/Title _____

Bus. Tel. _____ Date Effective _____

Mail to: A.P.E.M., 530-330 St. Mary Ave. Winnipeg, Manitoba R3C 3Z5 or FAX (204) 942-3718