Publications Mail Agreement Number 1693700

THE KEYSTONE PROFESSIONAL

APEGM The Association of Professional Engineers and Geoscientists of the Province of Manitoba

AUGUST 2000
www.apegm.mb.ca

Canada Post Issues Commemorative Iron-Ring Stamp

By: R.A. Johnson, P.Eng.

The Wardens of Camp 8 of The Ritual of the Calling of an Engineer and the Association of Professional Engineers and Geoscientists of the Province of Manitoba congratulate Canada Post on the design and issuance of "The Calling of an Engineer" stamps recognizing the 75th anniversary of the founding of the Ritual.

This uniquely Canadian Ritual, written by Rudyard Kipling, is intended to bind Canadian engineers of all levels of experience together, the centrepiece of the ceremony being a formal obligation by each participant "taken upon honour and cold iron" to pursue his or her career with honesty and integrity. The taking of the obligation is signified by the wearing of an iron ring on the little finger of the working hand. It has become a widely-recognized identification of Canadian engineers.

The first ceremony of obligation took place in Montreal on April 25, 1925. The Ritual is governed by a Corporation of Seven Wardens with the ceremonies being conducted by 25 Camps located throughout Canada. Camp 8 in Winnipeg first met on April 10, 1930 and is governed by its own Seven Wardens. More than 260,000 engineers have been obligated to date, with more than 10,000 in Manitoba by Camp 8.

The ring of cold iron (although most rings are now made of stainless steel to prevent rusting) is intended to remind its wearers of their obligation, their dependence on the strengths, physical and otherwise, of inanimate materials, that things can fail, and to take appropriate precautions against that eventuality.

The stamps illustrate four major engineering achievements. They are: the CP Rail High Level Bridge at Lethbridge, Alberta; the Polymer Corporation's synthetic rubber plant at Sarnia, Ontario; the heart pacemaker; and the Trans-Canada Microwave Radio Relay System. All symbolize the wide-spread influence of engineering works on modern society.

The Wardens and the APEGM appreciate the recognition given their profession by these stamps. ■

Alain Gilbert, V.P. Communications, Canada Post (l) and Georges Archer, President of CSCE, unveil the new Iron-Ring stamp.

Winnipeg Police have arrested and charged an individual with regard to the defamatory letters that were sent to this Association, government offices, and numerous engineers and engineering firms in Winnipeg. ■

Emerging Technologies

Luncheon Meeting, March 16, 2000

Winnipeg Hydro's Innovative Hydraulic Turbine Technology

By J.B. Thorsteinsson, P.Eng.

A record turnout of 104 attended this luncheon meeting at the Masonic Conference Centre. Jim Linton, P.Eng., Director of Winnipeg Hydro, was complimented by Dave MacMillan, P.Eng., Project Manager KGS Group Consulting Engineers, who both made very professional, well-illustrated presentations on Winnipeg Hydro's innovative Hydraulic Turbine Technology.

Prior to the presentations three former General Managers of Winnipeg Hydro were recognized; R.T. Harland, Ken Hallson, and Max Spigelman in support of this achievement.

Mr. Linton gave a brief outline of the historic background of Winnipeg Hydro's hydraulic generating plants on the Winnipeg River, commencing with Pointe du Bois (69 MW) in 1911 and Slave Falls (71 MW) in 1931. These plants supply 45% of energy requirements and 30% of peak demand for Winnipeg Hydro's 96,000 customers.

In 1995, KGS Group was retained by Winnipeg Hydro to conduct a preliminary engineering study comparing plant redevelopment versus plant rehabilitation. The study concluded that the old plant could be successfully rehabilitated, using the compact Straflo turbine technology, for a total cost of approximately $100 million less than the cost of building a new plant (estimated at $310 to $380 million in 1995 dollars). The total replacement of the original turbine generators would increase the plant capacity from 69 to 134 MW. Water power is a major source of renew-

Continued on page 9

THE KEYSTONE PROFESSIONAL

AUGUST 2000

Published by the Association of Professional Engineers and Geoscientists of the Province of Manitoba

850A Pembina Highway, Winnipeg, Manitoba R3M 2M7

Ph. (204) 474-2736 Fax (204) 474-5960
E-Mail: apegm@apegm.mb.ca

The Communications Committee would like to hear from you. Comments on your newsletter can be forwarded to us through the Association office. Members are also encouraged to submit articles and photos on topics that would be of interest to the membership.

Publications Mail Agreement Number 1693700

New Members Registered May & June 2000

A.H. Bailes	P.F. Ford	S.L. Masson	J.J. Ran
C.J. Beaumont-Smith	J.W. Grant (AB)	M.D. Maykut	D.J. Robertson
K.R. Bindle	D.L. Harrison (AB)	T.I. Mayor	R. Sack-Tina
E.W. Brown	M.G. Hay	H. Mumin	E.G. Sawitzky
G.R. Cooke	A.S. Herbst (AB)	K.G. Murphy	B.G. Schropp (ON)
K.D. Costello	M.D. Lawton (ON)	J.J. O'Donnell	R.K. Springer
B.M. Czornobay	R.M. Lemaitre	P. Papadimitropoulos	P.A. Swan
R.C. Davis (ON)	W.J. Lewis	D.T. Parbery	G. Thorne
N.J. Dunn	X. Li	S.A.J. Pattison	K.A. Truderung
J.S. Dutchak	J.S. Little	J.C. Pedersen	C. Valeo
C.L. Dyck	C. Loutas (AB)	A. Plante (QC)	B.R. Wohlgemuth
I.J. Ferguson	P.H. Mare	D.P. Price	R.S.G. Yaworski
W.T. Fleming	L.V. MacCormack	B.A. Quarterman (AB)	G.A. Young
	C.D. Martiniuk		R.J. Young

Members-In-Training Enrolled May & June 2000

D.L.J. Bakke	N.J. Ferreira	C.C. Kaatz	D.U.H. Tang
C.M.J. Blair	A.B. Hayes	K.J. Kelly	T.M. Wiebe
M.J. Boissonneault	A.J.M.	P.F. Mayer	
S.B. Dew	Hermenegildo	S.T. Russell	
I.Djatiutomo	A.Janzen	M.A. Suzio	

Licences Issued May & June 2000

R.B. Atkinson (AB)	P.D. Galloway (NJ)	W.D. McEwen (ON)	G.D. Powers (AB)
J.R. Benson (NC)	M.P. Goslow (FL)	R.D. McFadyen (NC)	M.P. Roxburgh (FL)
R.E. Diedrich (WA)	D.M Honan (NY)	B.D. Munro (AB)	B.W. Wagner (AB)
T.A. Hakim (AB)	S.W. Honeycutt (TN)	K. Nachman (QC)	G.R. Wreford (AB)
G.V.R. Holness (MI)	P.J. Kelly (FL)	M.F. Nasmyth (QC)	

Resignations June 30, 2000

D.J. Babala	W.E.G. Courtney	R.M. Palko	L. Toner
K. Bielunska-Perlikowski	C.D. Craig	N. Saites	D.K.J. Wainio
B.G. Bower	W.A. Derry	Y.P. Sinha	A.H. Young
P.T. Brownlee	D.E. Diduch	W.G. Stephens	K.M. Zawortny
R.W. Bruynson	R.R. Fullerton	K.A. Sutherland	
L.G. Buchanan	I.A.F. Hall	M.E. Swim	
	S. Hops	R.W.C. Thew	

Members-in-Training Resignations June 30, 2000

J.D.C. Chudzik	S.J. Dueck	J.J. Malkoske	R. Sathiamoorthy
D.R. Dott	P.M. Frank	D.D. Robbins	S.J. Shabaga

Reinstatements May & June 2000

J.A. Boyko

In Memoriam

The Association has received with deep regret notification of the death of the following member:

Bruce Gordon Bower

2000 Annual General Meeting Program

On Friday, October 27, 2000, there will be an all-day Professional Development Conference. On Saturday, October 28, 2000, an Information Session and Issues Forum will precede the business meeting. A copy of the schedule is posted on the Association's web site **(www.apegm. mb.ca)**. Links to sites with relevant information are available. Details are subject to change. ■

President's Message

John Hosang, P.Eng.

Life in the Chapters

Most of my past messages have dealt with major issues confronting the Association. By their very nature they had negative connotations or, at the very least, they were challenges to us all. I am taking this opportunity to write about one of the positive aspects that I have been aware of within our Association for some time – that is, the energy and enthusiasm present in our Chapters.

It would not be surprising if many of the Winnipeg members were unaware of their existence; however, there are four Association Chapters alive and thriving in Brandon, Thompson, The Pas/Flin Flon (named Kelsey) and Morden/Winkler (named Pembina). I have had the privilege of attending meetings in all Chapters over the past year, and the special privilege of witnessing the birth of our newest offspring – Pembina – a few months ago.

In all cases I noted a core of dedicated individuals who have created and sustained the momentum that is needed to keep these local organizations going. To do this in any location is challenging enough, but when you add in the factors of being remote from the Association's offices, and dealing with smaller numbers of members, the challenges are that much greater. On behalf of the entire Association, I offer my thanks to all of you in all locations who have contributed in any way to supporting our Chapter activities. I dare not begin to name names as I would surely miss many of you. But you know who you are.

There are two specific issues that are worthy of note. The first is the level of enthusiasm that exists within the Pembina Chapter. Last winter I attended a meeting of local members in Winkler where they agreed unanimously to form the Pembina Chapter. This decision was followed very quickly with personal commitments from enough of those attending to form a Chapter executive. As I left the meeting to return to Winnipeg at the end of the evening they were plotting strategies in a number of areas to bring life to their new organization. The enthusiasm in the room was uplifting.

Another facet of our Chapter organization is the unique "trans-provincial" structure of the Kelsey Chapter. With the significant involvement of members from Flin Flon on the border with Saskatchewan, the Chapter has evolved with ties to both the Manitoba and Saskatchewan Associations of Engineers and Geoscientists. Its Charter acknowledges that it functions within both Associations which, in turn, provide it with operating funds. At least once a year you will see the Presidents and Executive Directors of both Associations present at their meetings. This dual relationship is unique in Canada and it works well to meet the needs of the professional community in this area.

As the number of geoscientific APEGM members grows, the membership of the northern Chapters should grow and create a truly broadened focus that is representative of our Association. I encourage geoscientists as well as engineers to become involved in your local Chapter activities to continue the growth that I have seen. It is the life within the Chapters that makes our Association a truly provincial Organization. ■

APEGM VISION

APEGM is the leader and a facilitator of the process that ensures excellence in engineering, geoscience and applied technology for the public of Manitoba.

APEGM

Annual General Meeting

The 2000 Annual General Meeting of the Association of Professional Engineers and Geoscientists of the Province of Manitoba will be held on Saturday, October 28, 2000 simultaneously at the BEST WESTERN INTERNATIONAL INN, Wellington at Berry, Winnipeg and videoconference locations in Brandon, Thompson, and Flin Flon.

NOMINATIONS FOR ELECTION TO THE COUNCIL

Members of Council whose term of office continues for another year are:

JOHN R. HOSANG
(Mr. Hosang continues on Council as Past President)
ALLAN E. BALL;
GREGORY D. HAMILTON;
LAURA J. PENNER;
ALAN J. POLLARD

Members of Council whose term of office expires at the 2000 Annual General Meeting are:

RALPH J. ESCHENWECKER;
LAWRENCE R. FERCHOFF;
JOHN M. MACLEOD;
ROBERT N. MATTHEWS;
ALFRED J. POETKER;
LOUISE A. QUINN;
SAMI H. RIZKALLA

Those nominated by the Nominating Committee for election to the FOUR PROFESSIONAL ENGINEER positions on the Council are:

MOE A. BARAKAT;
JERRY W. BOGAN;
LAWRENCE R. FERCHOFF;
DIGVIR S. JAYAS;
LEONNIE N. KAVANAUGH;
ARNOLD H. PERMUT;
ALFRED J. POETKER;
VICTOR J. THIELMANN

Those nominated by the Nominating Committee for election to the TWO PROFESSIONAL GEOSCIENTIST positions on the Council are:

IAN T. BLAKLEY;
JURATE C. GERTZBEIN;
KELLY V. GILMORE;
RAY A. S. REICHELT;
ERIC C. SYME

Additional nominations may be made by the membership. Nomination forms are available at the Association office. The consent of the nominee must be obtained, and the nomination form must be signed by the nominator and six other members. Nominations must be received in the Association office **on or before Friday, September 15, 2000.** Each completed nomination form must be accompanied by the nominee's resume, a history of the nominee's Association activities, and the nominee's platform (preferably not to exceed 100 words). Forms for the resume are also available from the Association office. It is recommended that completed nomination forms be hand-delivered to the Association office. All of the above is in accordance with the Association By-laws.

BY-LAW CHANGES

By-law 17.1 prescribes that any proposal to introduce new By-laws, or to repeal or amend existing By-laws, at a duly convened meeting of the Association, must be signed by not fewer than six members and given to the secretary at least 45 days before that meeting. In this case the date for the receipt of a proposal is Wednesday, September 13, 2000.

RESOLUTIONS

By-law 5.1.4 states that resolutions put forward at an annual general meeting must be in writing, signed by the mover and seconder, and received by the Secretary no less than 48 hours prior to the commencement of the meeting. Either the mover or the seconder must be present in person or by distance conferencing at the meeting for the resolution to be considered.

David A. Ennis, P. Eng.,
Secretary ■

Professional Development

Breakfast Meeting, June 23, 2000

The Next Flood: Getting Prepared

By: D. Swatek, P.Eng.

After almost two weeks of solid rain, a mouldy but enthusiastic crowd turned out to listen to a presentation by Mr. Larry Whitney – Manager, Water Planning and Development, and Deputy Director, Water Resources – titled, The Next Flood: Getting Prepared. While the Red River rose, Mr. Whitney presented the major findings and recommendations contained in the April 17, 2000 report of The International Red River Basin Task Force to the International Joint Commission (IJC). The report contains nine major conclusions and 51 recommendations on: future flood potential and flow management; risk reduction in communities throughout the Red River Basin; risk reduction for the City of Winnipeg; flood preparedness and resiliency; flooding in the Lower Pembina River Basin; potential inter-basin transfer of biota at Lake Traverse; future data-modelling needs and decision support; and future flood-related institutional arrangements.

The first message from Mr. Whitney was to expect floods greater than that of 1997. In fact, Flood preparedness for the City of Winnipeg – the largest city at risk – should be based on the level of the 1826 flood at the very minimum, and beyond that: "as high as economically justifiable". The two options recommended are: expansion of the floodway, and construction of a water detention structure south of St. Agathe – the latter not being well received at public consultations. Good progress has been reported for other "at risk" communities in the Red River Basin. In the City of East Grand Forks, MN, roughly 1100 homes have been removed from the areas of greatest risk while an "invisible flood wall" (i.e. removable flood wall) can be quickly erected to protect the remaining community. The Manitoban communities in the Red River Basin rely on ring dikes.

Larry Whitney, P. Eng.

Thirteen recommendations deal with "Flood Preparedness and Resiliency". At the core of these recommendations is the creation of a "flood culture" through increased public awareness. At present, there are no flood-related building codes in Canada other than to say "don't build in a flood plain" while roughly 85% of all structures in Manitoba are in a flood plain; and even more basic: the flood plain itself must be defined. Mitigation programs similar to those of the Federal Emergency Management Agency (FEMA) in the U.S. are also included in these recommendations (for example, it may make more sense to pay people to relocate than to pay them to rebuild on the same spot) along with greater efforts to increase participation in flood-insurance programs.

Greater North-South coordination is required in the Lower Pembina River Basin where dikes and roads on both sides of the border have aggravated the overall problem. A Pembina Advisory board has been created for the north-south coordination of diking in this basin.

A water-quality wake-up call was received when a banned substance (100 lbs of which was lost from storage during the 1997 flooding of Grand Forks) was detected (in trace amounts) in the flesh of Lake Winnipeg walleye. The Task Force has recommended that no banned substances be stored in the flood plain. A further concern for water quality is the transfer of undesirable alien biota from Lake Traverse into the Hudson Bay watershed during flood periods. The monitoring of biota is recommended.

The data and decision support systems have come a long way since the 1997 flood; however, there remains a great need to improve and maintain these databases. For instance, with the tools available today, the flooding of both Grande Point and St. Agathe could have been predicted. One important recommendation calls for free access to Canadian government data through the creation of a Red River Basin Disaster Info Network.

Mr. Whitney concluded by expressing the need for a basin-wide institution to advocate and report on flood-related issues by dealing directly with federal, provincial, and state governments, and emphasizing again the importance of developing a "flood culture".

Larry Whitney is a graduate of the University of Manitoba in Civil

Continued on page 6

Alberta Engineer Elected as Chairman of CCPE

Noel A. Cleland, P.Eng., from Canmore, Alberta, was elected as Chairman of the Board of the Canadian Council of Professional Engineers (CCPE) on May 27 in Montreal.

Internationally recognized as an expert in petroleum engineering, Mr. Cleland is the President and Director of Cleland Energy, a company he established in 1993. He also works as an independent petroleum engineering consultant, and was a part-time lecturer in petroleum economics at the University of Calgary.

"Free trade and economic globalization, Canadian industry's desire for less regulation and red tape, and the continued decline in registration and licensure by engineering graduates in the emerging disciplines of engineering have become huge issues for the engineering profession," said Mr. Cleland. "We must act quickly to preserve the future relevance of our regulatory system and our ability to protect the public. CCPE is leading the way. I am extremely proud to have been elected as Chairman of CCPE at this time, and of the work we are doing on behalf of the profession, and I look forward to helping the Council to meet the challenges that lie ahead."

Born in Australia, Mr. Cleland has worked primarily in the Canadian oil industry since immigrating to Canada in 1954. His experience includes 28 years with Sproule Associates Ltd. (Canada) in a variety of engineering positions, including nine as President. He is currently a member of Danoil Energy's Board of Directors, and has previously served on the boards of several other oil and gas companies.

The author of more than 60 scholarly papers on the oil and gas industry, Mr. Cleland is the recipient of numerous honours and awards including APEGGA's Frank Spragins Award and L.C. Charlesworth Professional Service Award, as well as the CIM Robert Elver Mineral Economics Award. He was awarded a BE with honours in mining engineering from the University of Sydney in 1950.

Mr. Cleland has given countless hours to his profession, serving as President of CIM, APEGGA, and the Petroleum Communication Foundation. He is an honourary life member and registered member of APEGGA, and a member of several other professional associations. ■

CCPE Chairman Noel A. Cleland, P.Eng.

The Engineering Endowment Fund Advisory Committee

By: J.B. Martino, P.Eng.

It has been a few years since the last article from the Engineering Endowment Fund Advisory Committee (EEFAC), but we are still here and still very busy. The main purpose of the committee is to invite and review proposals for grant money from the Engineering Endowment Fund and then advise the Dean of Engineering as to which of those projects should receive support. Once the Dean has reviewed the recommended applications, he forwards them to the Engineering Faculty Council and informs the applicants. I have been a member of the committee since 1994 and chair since 1998. EEFAC nominally consists of fourteen members drawn from engineering academic and support staff, undergraduate and graduate students, and alumni. The charter of the committee requires members be drawn from all departments of Engineering to ensure a balanced review of applications.

The goal of the committee and the fund is to provide support for initiatives and projects that promote excellence and innovation in the Faculty of Engineering and give extra support for projects that might not otherwise be completed. Funds for the competition are a portion of the interest generated each year from contributions to the endowment fund. In the past the EEFAC has provided sponsorship to many student competitions such as the Great Northern Concrete Toboggan Race, Air Cargo, Biosystems Tractor Team, and Formula One Competitions. These competition not only give the students some practical application of their classroom knowledge but also provide a basic taste of project management. The fund has also supported outreach programs like an orientation program for newly admitted engineering students and the U of M Engineering Magazine.

The fund has an ongoing commitment to fund up to ten one-thousand-dollar scholarships for second-year students entering from the first-year program. This is an area which has a low number of scholarships and may help some students to decide to stay on at the University of Manitoba rather than transferring to another institution after first year. Another multi-year plan has been undertaken with the library staff to upgrade facilities in the engineering library. This year it involved adding four computers for better access to on-line data and electronic media.

The EEFAC has tried to sponsor a banner project, which may require several years of funding, that would have a lasting benefit to the faculty. For several years this project was development of an advanced teaching room – the Multi-Media Room (Room 337 for those of you who know the Engineering Building), which also allows for distance education. The room has daily bookings for its facilities. This year we began a three-year funding program of laboratory modernization in the Engineering Building, providing much-needed equipment to develop laboratory capabilities. Funding from the Engineering Endowment Fund has been coupled with funding from other sources for this project to reach to every corner of the engineering complex. If you happen to be around the engineering building, look for plaques outside the funded laboratories this coming fall. The labs include the Stress Analysis Laboratory, the Noise Control Laboratory, the Physical Electronics Laboratory, the Machines Laboratory, the Communications Laboratory, the Environmental Lab, the Geotechnical & Geoenvironmental Lab, the Hydraulics Laboratory, and the Machine shop. In funding these banner projects the EEFAC is careful to keep funds available for other worthwhile projects.

This year we had twenty applications requesting funding of about $266,000 to review at our annual fall meeting, out of a total of $230,000 available for disbursement. EEFAC recommended full or partial funding for the following programs and initiatives:

Continued on page 9

Practical Flexible Working Arrangements

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

A sub-committee of the Women in Engineering Advisory Committee (WEAC) has prepared a series of articles to provide information to members of APEGM about flexible working arrangements that began in the October, 1999 issue of "The Keystone Professional". The members of the sub-committee are: Brenda Danielson (Chair), Elan Swatek (WEAC Chair), Meghan O'Laughlin, Carolyn Geddert, Kelly Olischefski, and Robin Hutchinson. The complete document is available on the APEGM website under "Professional Practice" (click on "Information for Members").

The following is the sixth in a series of seven articles.

On-Site Day Care

Description

It is possible for companies to offer many different services with respect to assisting employees with child care. These options include company-provided on-site day care, company provided or assisted near-site day care, subsidies, financial support at community child-care facilities, and family child-care networks for temporary or emergency situations.

On-site day care would involve a company setting up and running a child care facility for its employees. This may or may not be subsidized by the company. Such child care sites may be tailored to the hours of operation of the company. Company-supported child-care facilities could be very beneficial to employees who work unusual shift schedules, where typical "day" care facilities might not provide adequate service.

Similarly, where company location or operation does not permit, near-site day cares might be established. These may be run by the company and may or may not be subsidized.

Some companies might choose to financially support local day-care facilities already in existence. Companies can also have reserved spaces in local centers for the use of employees in emergencies or when their normal arrangements temporarily break down.

As a minimum some companies may be able to provide a referral service on locating reliable, quality child-care arrangements for their employees.

Considerations

Before approaching a company about developing a child care support, whether it be in the form of subsidies, a referral service, or on-site day care, research should be done at the company to determine the acceptance or need at the site or the company as a whole. If there is not significant enough need at a single place of business, it may be possible to partner with other businesses nearby to develop a joint child-care facility sharing both costs and responsibilities. Employers might have to deal with feelings of discrimination by employees without children. However, most individuals believe that a better upbringing for children benefits society in general.

Advantages

- parents can spend lunch and/or break times with children
- parents/employees might have more input into the operation of the day-care centre
- may be a less-expensive option for an employee's child's care
- could allow for child care during irregular shifts or when overtime is necessary
- less time commuting if children are not taken to separate locations

Disadvantages

- potential liability issues for the company
- may not be suitable for school-age children who attend schools near their home ■

Geoscientist Elected President of NAPEGG

Jody Todd, P.Geol., is the first geoscientist to hold the office of President of The Association of Professional Engineers, Geologists & Geophysicists of the Northwest Territories (NAPEGG) since Dr. David Emery in 1981-1982. Jody graduated from UNB in 1993 with a B.Sc. in Geology. He went on to achieve his Masters in Mineral Exploration from McGill in 1996. He is currently the Geology Co-ordinator at the BHP Ekati Diamond Mine. Jody was also the recipient of NAPEGG's Young Achiever Award this year. He also has the distinction of being the youngest NAPEGG President to date. ■

Registration of Professional Geoscientists Coming in Ontario

The Ontario Professional Geoscientists Act, 2000 recently passed third reading in that Province's Legislature. The whole third-reading process took only 38 seconds. That was perhaps a signal of the Legislature's interest in providing for self-regulation of geoscience in Ontario. It is expected that the APGO transitional Council will be in place by early August and that consultation on proposed regulations will follow shortly thereafter. Once the regulations are completed, the Act will be proclaimed. Geoscience representatives in Ontario have been seeking registration under an Act for some years and, as a result of a decision by Professional Engineers Ontario in 1998 rejecting a common association, will now have a separate association. ■

The Next Flood: Getting Prepared

Continued from page 4

Engineering and Public Administration. He joined the Water Resources Branch of the Department of Natural Resources in 1969 following two years with PFRA. Since joining the Water Resources Branch, he has held many water-management positions including three years as Director of Water Resources. His current title is Manager, Water Planning and Development and Deputy Director, Water Resources. During his career he has served on many interprovincial boards and commissions including the Interna-tional Joint Commission (IJC), International Garrison Diversion Study Board, The International Souris River Board of Control, The Prairie Provinces Water Board, and the Upper Assiniboine River Basin Study Board. He is also a member of the International Red River Basin Task Force appointed by the International Joint Commission, an alternate member of the Red River Basin Board, a member of the International Flood Mitigation Initiative, and Chair of the Red River Water Resources Council. ■

Regulation of Fuel Additives – An Environmental and Political Controversy

By: G. Rempel, P.Eng.

Introduction

The World Trade Organization (WTO) protests in Seattle highlighted concerns of environmental, labour and other groups regarding the implications of multilateral free-trade agreements such as NAFTA. One of the environmental issues raised was the concern that the ability of national governments to regulate environmental matters would be eroded by the provisions of such international trade agreements. In Canada and the United States, recent events surrounding the two fuel additives MTBE and MMT have served to draw attention to this issue.

Background

Two fuel additives, MTBE and MMT, have triggered controversy in regard to a need for their regulation amid concerns of their environmental impacts on human health, and also the ability of Canada and the United States to control the use of these compounds under NAFTA.

Lead was a fuel additive, used for over 60 years as an octane enhancer, before being banned in 1990 because of adverse health effects. Since then, researchers have developed other, apparently less-harmful, alternatives that have the same fuel-improving qualities. In Canada these include MTBE, MMT and ethanol.

Fuel additives serve as oxygenates, and can be blended with gasoline in small amounts (usually 5 to 15 percent) to improve fuel quality. Some oxygenates can be used as fuel extenders, allowing other resources such as natural gas and biomass to replace part of the crude oil used to manufacture gasoline. This helps to conserve diminishing oil supplies. Fuel additives also act as octane enhancers, preventing the fuel from igniting prematurely and causing engine damage.

Methyl Tertiary Butyl Ether (MTBE)

MTBE is made from a mixture of methanol and isobutylene or methyl from oil refineries. It has a high octane value and a low volatility, and is thus an effective octane enhancer. It has an advantage over alcohol-blend fuels because it does not separate out in the presence of water.

There has been concern in the United States and Canada over the contamination of surface and groundwater with MTBE. MTBE is extremely persistent in water and may carry chemicals from gasoline along with it into drinking water supplies. Apparently small concentrations of MTBE will cause taste and odour problems. The state of California has moved to ban MMT and MTBE due to groundwater quality concerns (phase-out by 2003).

In Canada, MTBE is manufactured only by Methanex Corp. in Alberta. That means most MTBE is imported from the United States. MTBE-blended gasoline is currently sold in B.C. and in some Maritime provinces, but not in Manitoba.

MMT

MMT is a manganese-based compound that is added to gasoline to enhance octane and reduce engine "knocking". Canadian legislators were concerned that the manganese in MMT emissions posed a potential public health risk. In addition, automobile manufacturers have argued that MMT damages emissions diagnostics and control equipment in cars, thus increasing air pollutant emissions. Ethyl Corporation of the U.S. is the product's only manufacturer.

Controversy

In early April 1996, the Canadian Parliament acted to ban the import and interprovincial transport of the gasoline additive MMT, an Ethyl product which Canada considered to be a health concern because it degraded the performance of automobile emission-control systems. Ethyl (the company that invented leaded gasoline) responded by filing a lawsuit against the Canadian government under NAFTA. Ethyl claimed that the Canadian ban on MMT violates various provisions of NAFTA and sought restitution of $251 million to cover losses resulting from the expropriation of its MMT production and its "good reputation".

NAFTA requires member countries to compensate investors when their property is "expropriated" or when governments take measures "tantamount to expropriation". Ethyl claims that the MMT ban constitutes such an expropriation. The company argued that the ban would reduce the value of Ethyl's MMT manufacturing plant, hurt its future sales and harm its corporate reputation.

A key provision of NAFTA makes the lawsuit possible. Under NAFTA's investment chapter, for the first time in a multilateral trade or investment agreement, corporations are granted "private legal standing" or the ability to sue governments directly and to seek monetary damages. This "investor-to-state" dispute-resolution mechanism diverges from dispute-resolution systems in previous international economic agreements in two ways: firstly, previous agreements allowed only national governments to bring suits; and secondly, these agreements did not allow for monetary compensation. The most a government could do if it was successful in a suit was to impose tariffs on the violating nation.

In July 1998, the Government of Canada announced that it would lift its 1997 ban on the importation and interprovincial trade of MMT. The settlement reportedly cost Canada over $20 million.

In June 1999, Alberta-based Methanex Corp. announced plans to sue the U.S. Government because of California's attempt to ban MTBE, a gasoline additive. The company reportedly will stop production in 2002, in response to the California ban. Methanex wants $1.4 billion Canadian in damages.

The U.S. EPA has recently (March 20, 2000) announced that it is beginning regulatory action aimed at eliminating MTBE from gasoline, in order to protect drinking water. California has banned MTBE (based on odour/taste) with phase-out by 2003.

The scientific objective evaluation of environmental effects of these compounds seem to be lost in the political controversy. Some environmentalists believe the Ethyl case has set a precedent where, under NAFTA and similar agreements, a government would have to compensate investors when it wishes to regulate them or their products for public health or environmental reasons. The precedent may be set whereby the legal right of corporations to be compensated when public health regulations affect a company's bottom line is given the same weight as the public's right not to be harmed by industrial toxins. This could send the message to investors that seeking compensation from the public for the cost of complying with environmental regulations is a viable business strategy.

The global trade issue goes well beyond the full additive controversy and includes "method of production" issues, food hormone additives, use of leg-hold traps for furbearers, etc.

The environmental impacts and environmental policy issues are being protested by environmentalists, e.g., part of the WTO protest in Seattle, and are being studied by various agencies, including the International Institute of Sustainable Development in Winnipeg. The latter has expressed concern about the capability of effective regulation in the face of potential investor lawsuits.

This controversy has been brought to the attention of the CCPE Environmental Committee. The E&SD Committee is monitoring the situation and will report, as appropriate, to the Council when greater clarification is achieved. ■

Council Reports

Tuesday, May 9, 2000

By: A.N. Kempan, P.Eng. (Ret.)

IS APEGM LIABLE FOR MEMBERS' COMPETENCE?

Present at this meeting were Councillors Suski, Hamilton, Britton, Poetker, Penner, Pollard, Eschenwecker, Ferchoff, Ruff, and Ball. Presiding at the meeting was President John Hosang, assisted by Executive Director Ennis.

The first item on the agenda was a review of the Issues and Activities status report. This is APEGM's way of tracking tasks to ensure they are completed. Of particular interest was the item on Software Engineering. Council learned that a panel has been struck by the Canadian Council of Professional Engineers (CCPE) and the Association of Universities and Colleges of Canada (AUCC), as required under the settlement of CCPE's lawsuit. This panel will make non-binding recommendations on the appropriate use of the term "software engineering" by Canadian universities. Once the panel delivers its report, AUCC and CCPE have pledged to use their best efforts to arrive at a mutually acceptable resolution.

After adoption of the agenda, Council got down to the meat-and-potatoes part of the meeting. Executive Director Dave Ennis presented his report. Council heard that the Registration Committee requested to be present when Council hears a direct appeal from a member. The member is appealing a decision made by the Registration Committee. Council decided, respectfully, to hear the appeal alone.

The meeting learned that Councillor MacLeod had resigned his position on Council. This was precipitated by Councillor MacLeod's relocation to Alberta. Although a vacancy may be filled by Council, Council decided to keep the position open until the elections.

Every deadline for membership dues catches a few members off-guard. This year ten members failed to meet the cut-off date. Executive Director Ennis has some discretion in deciding when a payment was deemed to have arrived. Of the ten delinquent members, eight had reasons for late payment acceptable to Mr. Ennis, and the other two cases came before this Council meeting. One member had the unfortunate experience of a home fire and the other, a member for fifty years, was out of the country and received mail sporadically. Council felt that both members had good grounds for re-instatement.

In December, Council authorized two Task Forces, composed of no more than six people each, to grapple with the thorny issue of (voluntary) professional development. At the first meeting of these groups, the groups decided to amalgamate and to have only one Task Force. Executive Director Dave Ennis suggested that a member of Council should be a member of the Task Force. Furthermore, Mr. Ennis felt that the Association could be vulnerable if a creditable professional development program was not underway. Councillor Eschenwecker thought a large group could bog things down. Manager of Administration, Ken Buhr, who was involved with the Task Force, said there would actually be two groups under one umbrella and that this would allow them to deal effectively with interwoven items. This revelation put Councillor Eschenwecker more at ease. When Council was invited to volunteer for the Task Force, the silence was deafening. The item was carried over to the next meeting.

The Governance Task Force, under the Chairmanship of Councillor Eschenwecker, presented to Council three policies for their approval. These were mainly boilerplate Governance processes and Council was quick to approve them. Three down and 20 to go!

No meeting would be complete without an item on our relationship with other professional groups. In October of 1996, APEM and the Certified Technicians and Technologists of Manitoba (CTTAM) signed a Memorandum of Understanding which, among other things, provided for a Joint Board to deal with issues arising between the groups. In February of 1999, a second agreement was signed, setting out the terms of reference for the Joint Board. Council was asked to approve two proposals: ownership of the MOU and Board representation from the member organizations. Council approved both proposals. APEGM needed to appoint a member to the Joint Board; however, Council decided to put off that decision until the fall.

One of the last items on the agenda was a review of the Constitution and By-laws of The Kelsey Chapter. This chapter is unique in that it is part of both the Manitoba and Saskatchewan engineering associations, due to its location on the provincial border. Council decided to let Executive Director Dave Ennis review the document.

President Hosang called for a motion to adjourn the meeting at 3:06 p.m. The time was well-chosen, because it was too late to go back to work but early enough for a round of golf. Not a bad way to end a beautiful spring day. ■

Tuesday, June 13, 2000

By: A.N. Kempan, P.Eng. (Ret.)

COUNCIL STRUGGLES FOR A QUORUM

President Hosang had to use his procedural skills to the fullest at this meeting to ensure that Council business was conducted with a quorum. After a few well-attended meetings, there was a distinct drop-off in attendance. The June Council meeting dealt mostly with internal APEGM business.

After the regular procedural items were disposed of, Executive Director Dave Ennis ran through the Issues and Activities report. Of special interest was an item from the Legislation Committee regarding voting procedures. They had demonstrated an automated voting system which could replace the complicated manual method used by APEGM. Mr. Ennis thought it was promising.

Our lay Councillors had a few probing questions after a review of the Executive Committee Meeting minutes. Item one was support to the Innovators in the Schools program, for which APEGM provided $3,000. Councillor Suski wanted to know what was the expected outcome for APEGM from this support. Councillor Pollard said it provided public exposure and attracted members, but that it was difficult to get measurable results. Councillor Ruff wanted to now if we were getting the exposure we wanted. Councillor Eschenwecker said it was a way for members-in-training to get engineering work experience.

The APEGM budget came up for discussion since we are nearing the end of the fiscal year. Executive Director Dave Ennis informed Council that APEGM was converting to an 'activity based' system. The advantage was that it provided overall costs for an 'activity,' for example, the total cost of printing. At present, those costs are spread out in many accounts. After running through all the budget projections, the bottom line was that members can probably expect a small increase in dues next year.

A few external items did creep into the meeting, this one regarding an appeal from a member of the architecture profession. It all began when a member of APEGM included the words 'Architectural Design' in a drawing title block. This inclusion led an architect to lay a complaint with the Investigation Committee, who upon reviewing the facts, found no evidence that the member breached our Act. The architect then appealed to the Appeals Committee, chaired by Councillor Ruff. The Appeals Committee, too, did not find any evidence of wrong-doing. They did say that the regulations were vague regarding proper title block usage and this was something that should be addressed by the Joint Board. However, Councillor Britton said that the Joint Board was still arguing about membership and procedures, and not yet ready to do its business.

President Hosang had to fast-forward here because attendance had dropped with the exit of Councillor Matthews, so there was no longer a quorum. Councillor Ball being scheduled to appear later Council turned to non-critical items.

Executive Director Dave Ennis briefed Council on the CCPE annual meeting he had attended with President Hosang and Past President

Continued on page 11

Innovative Hydraulic Turbine Technology

Continued from page 1

able electrical energy, and the rehabilitation of Pointe du Bois Generating Station would nearly double the plant's output with no major impact on the environment.

The (Straflo) Demonstration Project was approved by City Council on May 22, 1996. Construction commenced in May 1998 and was completed in October 1999. This project saw the replacement of the existing 3.5 MW Francis turbine generator (1911) with a new 8.4 MW Straflo turbine generator.

Straflo Turbine

Water from upstream flows horizontally into the steel-lined "S" shaped intake passage which guides the flow through two smooth bends. The flow to the Straflo turbine then passes around a flow-shaping pier, enters the runner horizontally, passes through the propeller blades and into the draft tube at the same elevation. The generator rotor is mounted on the outer rim of the runner blades, and therefore a connecting shaft between the turbine and the generator is not needed. The air-cooled generator windings are protected from water by unique upstream and downstream ceramic seals.

The energy gained from the water during its drop of 14 metres from the forebay to the tailrace is converted by the turbine and generator into electricity. After exiting from the draft tube the water continues to flow to Winnipeg Hydro's second plant at Slave Falls.

The Straflo turbine has the following advantages over the original Francis turbines:

- The ability to pass up to 120% more water which increases the power output capability of the new turbine.
- Higher efficiencies in water passage and turbine energy production per unit of water discharged (92% compared to 84% efficiency).
- Significant reduction in maintenance due to the elimination of the long shafts and bearings.
- The turbine is supported by the new intake pier anchored to the underlying bedrock and is therefore not susceptible to ongoing movements of the powerhouse due to concrete growth caused by Alkali Aggregate Reaction (AAR).

The Alkali Aggregate Reaction long-term growth phenomenon is due to concrete alkali aggregate reaction. It caused up to 3.5 inches of concrete growth.

Mr. Linton's concluding remarks summarized the following viable alternatives for the future of Pointe du Bois:

- Option 1 (Maintain Existing Plant) – refurbish/maintain existing units and rehabilitate existing structures.
- Option 2A (Accelerated Straflo Rehabilitation) – replace remaining 15 units within six years.
- Option 2B (Optimum Straflo Rehabilitation) – replace four smaller 3.5 MW units as soon as possible and remaining units at a rate of one every two years (over 27 years).
- Option 3A (130 MW Redevelopment) – new four-unit plant.
- Option 3B (175 MW Redevelopment) – new four-unit plant.

Twenty-four questions from the audience were fielded by Mr. Linton and Mr. MacMillan – an indication of how much the audience enjoyed the presentation. ■

Bob Hamlin of the Emerging Technologies Committee thanks speakers Dave MacMillan (l) and Jim Linton (r).

Engineering Endowment Fund Advisory Committee

Continued from page 5

All Departments

32nd Congress of Canadian Engineering Students Inc.
Library Improvements
UMES Conference Participation 2000
Laboratory Modernization
Scholarships
Subtotal ..... $ 184,394

Civil And Geological Engineering

Great Northern Concrete Toboggan Race 2000
CSCE Computer Funding
Transportation Engineering Laboratory
Subtotal ..... $ 14,700

Mechanical And Industrial Engineering

Video camera (for student presentations)
CSIE Conference
CSME Student Project Car *(hands-on experience)*
UMSAE Design Vehicles *(three student competitions)*
CASI Glider Competition *(student competition)*
Subtotal ..... $ 13,650

Electrical And Computer Engineering

IEEE Robotics Project *(student competition)*
Subtotal ..... $ 3,000

Biosystems Engineering

Biosystems Tractor Team *(student competition)*
Biosystems Tractor Team Progressive Sled Design *(sled used to test tractor for competition)*
Subtotal ..... $ 4,600

Outreach

Engineering Access Program - Scholarship
And Bursary Initiative (one-time endowment)
Access Program for WISE Database Implementation and Support
EEFAC webpage
Subtotal ..... $ 9,151

TOTAL ..... $ 229,495

Money not spent in a given year is returned to the endowment fund. In any given year the Engineering Endowment Fund Advisory Committee is allocated 70% of the Engineering Endowment Fund interest and the other 30% is re-invested with the capital. Donations go into the capital fund.

Proposals may come from staff, students, and alumni who are contributors to the Engineering Endowment Fund, with a call for proposals made every fall. The EEFAC supports its own website, to provide information on making an application, the committee and the goals of the endowment fund, at: **www.umanitoba.ca/faculties/engineering/umeng/endowment/endowment.html**

Over the years alumni, students, staff, and organizations have provided generous contributions to the engineering endowment fund. Last year students voted to double their contributions to the fund to help ensure future and continuing development of the engineering program.

As you can see, the Engineering Endowment Fund funds many projects in the Faculty of Engineering but we still need your support, You can make a contribution to the Engineering Endowment Fund by contacting the Department of Private Funding, Room 179 Continuing Education, University of Manitoba, or phone 474-9195. If you are interested in serving on the EEFAC contact the Dean's Office at 474-9806. ■

EIT/GIT Pre-Registration Program Information Session Goes into Overtime!

by James Blatz, EIT

The June 28, 2000 EIT/GIT information session started promptly at 7 p.m. under the direction of Master of Ceremonies (MC) Fariborz Hashemian, EIT. Addressing a crowd of just over 50, Fariborz introduced the three APEGM representatives who would provide brief introductory comments.

The first APEGM representative to speak was Dr. Ron Britton, Past President of the Association. Dr. Britton discussed the profession's responsibility to regulate the practice of engineering to ensure public safety, the need for the EIT/GIT program, and the fact that the EIT/GIT training program demonstrates to the Provincial Government that APEGM is taking an active role in ensuring the competence of its newly registered members.

APEGM Director of Admissions, Shirley Matile, then gave a brief history of the Canada-wide four-year work-experience requirement, and the development of APEGM's Pre-Registration Program, including the rationale for the semi-annual reporting, which was designed as much for the EIT/GIT as for the Experience Review Committee (ERC). It was interesting to hear that Manitoba had taken a leadership role in developing a well-documented and organized program from which other Associations might learn.

Allan Silk, Chair of the Experience Review Committee (ERC), discussed the operation of the ERC, and the fact that the ERC looks for demonstrated continuing growth in all aspects of experience from graduation to the end of the four-year program. He stressed the importance of periodic reporting to allow the ERC to examine the growth of individuals and provide timely feedback. Mr. Silk then informed the participants that the ERC has considered combining the requirements for Professional Development (PD) and Professional Service (PS) hours in the near future. This would mean that an EIT/GIT could choose PD and/or PS activities to fulfill a single annual requirement.

Fariborz then opened the floor to all participants in attendance. The comments ranged from the need to examine the program's flexibility to handle immigrant engineers to delinquent supervisors with outstanding reports holding back ERC feedback up to two years. After the first two or three EIT/GIT speakers, a lineup for the microphone developed. It remained for the rest of the evening as EITs and GITs spoke out with both positive comments and supportive suggestions on how the process might be improved.

Eight selected major points raised in the session follow. To keep this article relatively brief, not all points have been included. The author encourages any participants who feel their points were missed or inadequately covered to submit letters to the editor, clarifying their points.

1. Many EITs/GITs felt that they should be allowed to vote. Council will be asked to re-visit this issue. However, this would require a legislative change, which may take some considerable time to implement.

2. Why is the time after graduation but before enrollment with APEGM not considered valid EIT/GIT experience? This question was raised a number of times during the evening with reference to specific examples; but it always led to a similar response – work experience obtained before enrollment could, in fact, be good, quality experience. However, according to Council policy, EIT/GIT enrollment is mandatory. This means that, to make the program equitable for all EITs/GITs, only work experience obtained while enrolled as an EIT/GIT is considered.

3. EITs/GITs noted that APEGM was putting too much pressure on them to approach supervisors who are not submitting reports in a timely fashion. This was in part due to concerns about how it might impact their future relationships with their supervisors. The panel members expressed their disappointment with delinquent supervisors. Allan Silk noted that submitting timely reports is a professional responsibility of supervisors according to the Code of Ethics.

4. A conscientious supervisor asked whether the supervisor reports could be simplified to help reduce the time requirements for supervisors. The panel noted that the reporting by supervisors is a very important component of the process and requested suggestions as to how the form might be simplified or modified.

5. Why can't co-op reports submitted to Universities be accepted as pre-registration experience under the new program as opposed to filling out the required forms after EIT/GIT enrollment? Why are twelve months of accepted experience required before co-op time can be submitted? The initial twelve-month requirement was put in place to avoid overwhelming submissions for pre-graduation experience, and to help eliminate frivolous applications. The relevance of this time-frame will be revisited.

6. Why isn't the reviewer's name indicated on the letter sent following the review of a report and what is the appeal process if an EIT/GIT is not satisfied with the decision of the ERC? Why can't EITs see their supervisors' reports to help with identifying areas of needed improvement in their development? The name of the reviewer is not noted as all decisions are made by the committee as a whole. The appeal process should start with an informal discussion with ERC chair Allan Silk. If the EIT/GIT is still not satisfied, the appeal can be made formally, as a written request to the ERC. The next step is an appeal to the Registration Committee. The concept of a new committee consisting of EITs/GITs was discussed and will be considered further. The supervisor forms are confidential at this time to ensure fairness to all. EITs/GITs are encouraged to ask their supervisors for performance appraisals, and to generally improve communications.

7. Can the ERC hold interview sessions and provide more feedback to EIT/GITs in the letters to help EITs/GITs recognize their progress in the program? The value of conducting individual interviews has been questioned, and semi-annual reporting seen as a much more effective communication tool. Each letter is personalized to some extent, but the idea of incorporating further indication of performance will be considered.

Continued on page 11

University News

Edward Shwedyk, P.Eng., Dept. of Electrical & Computer Engineering, was awarded the Dr. & Mrs. H. H. Saunderson award for excellence in teaching.

Mr. Shwedyk is described by students as a professor who "shares his broad knowledge and expertise with lucid word and subtle wit". Another comment on his teaching ability observed that he is a "very organized and down-to-earth instructor who always gives practical examples and makes theory relevant."

Dr. Shwedyk joined the university 25 years ago and teaches courses in communications engineering. He graduated from the University of Manitoba with his bachelor's and master's degrees in engineering, and from the University of New Brunswick with his doctoral degree. ■

APEGM Spring Golf Tournament

By: M.E. Baril, P.Eng.

This year's installment in the continuing drama otherwise known as the APEGM Spring Golf Tournament, took place on Monday, June 12th, at Elmhurst Golf & Country Club. Despite the considerable amount of rain that fell over the weekend, the course lived up to its reputation of being a course with excellent drainage. This golfer's feet and non-waterproof shoes remained dry through the first 16 holes, with no evidence of puddles to be found, other than the fact that the sand was moist. Most of the golfers did get wet on the last two holes as the rain moved in, however some lucky golfers did manage to avoid it. All in all, the weather cooperated nicely considering the three days before and after the tournament.

President John Hosang (l) presents trophy to most of the winning team.

After the golf, the festivities moved into the banquet hall where the prime rib prompted one individual (Sport Committee Chair Craig Perrett) to say "Wasn't that a fine piece of meat!" The trophies for first and second place were once again awarded by the current APEGM President, John Hosang. He had the honour to present the Landon Cup, for first place, to the team of Julien Lavergne, Brad Draward, Al Coppinger, and Mike Flynn. They finished with a score of -8 (par was 71). Their team has been together for a number of years, and has been consistently finishing among the leaders, with a second place finish two years ago. This year they exchanged their bridesmaids' dresses for the formal bridal gowns. The second place team, awarded the Sullivan Cup, was the team of Dana Bell, Chris Peck, Don Lecuyer, and Rob Coldwell. They had a score of –5.

As always, the tournament was a resounding success in regards to participation, with 38 teams and 152 golfers forcing themselves to be absent form the office for an entire afternoon. The Sports Committee would like to recognize their great sacrifice, without which we would not be able to hold a sold-out tournament year after year.

President Hosang and the second place team.

Once again this year KidSport and the Multiple Sclerosis Society were on hand with their tournament competitions to raise money for their charities, and were admirably supported by the tournament members.

The Sports Committee would also like to thank the following companies that supported our tournament by sponsoring a hole and/or donating prizes: Atlantic Industries, Azon Canada Inc., Flanders Insurance, UMA Engineering Ltd., Dillon Consulting, Nelson River Construction Inc., National Testing Laboratories, Acres International Ltd., Inland Pipe Limited, Lewis Instruments Ltd., DPIC Companies & Olfield Kirby Esau Inc. Insurance Brokers, Pullan Guld Kammerlock, Pauwels Canada Inc., Mid-Canada Reinforcing Inc., Agra Earth & Environmental, Superior Truss Co. Ltd., FWS Construction Ltd., KGS Group, Con-Force, Trus Joist MacMillan Ltd., Terracon, Concrete Restoration Services, Armtec Ltd., Vector Construction Group, Fort Garry Brewing Company, Golf Central, and Manitoba Hydro. ■

Information Session Goes Into Overtime!

Continued from page 8

8. Considering the number of EITs/GITs who enroll late and lose pertinent experience, can APEGM develop a better program to inform University graduates that they must enroll before time will be considered? The panel described the current, not insignificant, efforts of the Association to inform students and new graduates of the EIT/GIT requirements. The panel also suggested that perhaps the onus is on the graduates to find out for themselves what is required to become a professional engineer and to practise engineering in Manitoba. Having said that, the panel welcomed any suggestions on how the Association could improve current efforts. If you have any suggestions, please contact the Association directly.

After running twenty minutes overtime, participants thanked the panel and MC with a round of applause for the opportunity to provide feedback to the Association. The atmosphere was positive and it appeared that, overall, the program is working well and can only be improved following the discussions. Any EITs/GITs or supervisors unable to attend the event are encouraged to provide comments directly to the Association. Considering the success of the event, it is expected that a follow-up session will be held again in the future. ■

June Council Report

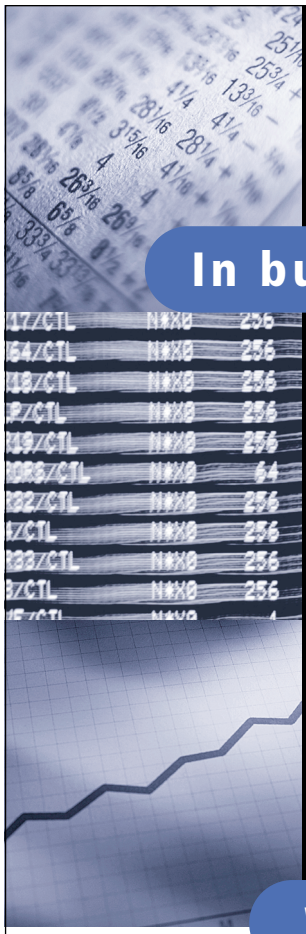
Continued from page 8

Washchyshyn. The CCPE President had obtained a proposal for Secondary Professional Liability Insurance. This type of insurance protects an engineer from lawsuits which could occur long after the work was performed and when no other insurance is in force. The Councillors learned that the Ontario association claimed 200 software engineers had registered with them. Even APEGM was getting into the act with one software engineering applicant. The applicant will be required to write some exams. President Hosang summed up the CCPE meeting by saying that the organization displayed an increasingly positive attitude.

The University of Manitoba Engineering program will be visited soon by the Canadian Engineering Accreditation Board (CEAB). This visit will determine if the university's programs are up to a generally accepted standard. In addition to the band of outside assessors, the CEAB requires two "General Visitors", senior members of the profession who informally represent the Association through the accreditation process. Council decided to leave the task of appointing the general Visitors to Executive Director Ennis and Director of Admissions Matile.

A few more agenda items passed, and everyone was still hoping Councillor Ball would suddenly materialize and complete the quorum. Through the medium of the telephone, the next best thing happened when Councillor Ball joined the meeting through a teleconference. Council went back and ratified the vote on motions without a quorum and everything was right with the world.

In addition to President Hosang and Executive Director Ennis, Councillors present at this meeting were Councillors Pollard, Eschenwecker, Ruff, Washchyshyn, Matthews, Britton, Penner, Suski, and (via teleconference), Ball. ■



In business return on investment is vital.

Who are you investing in?

The people your business needs to succeed:

- proven problem solvers
- creative thinkers able to adapt to a changing world
- men and women with the knowledge and experience to grow with your firm over time

The people to look for:

- **Professional Engineers**

The **P.Eng.** designation is your guarantee of:

- a rigorous education from an accredited university program
- an internship that meets the same high standards
- a true professional

P.Eng. The seal of engineering quality.

P.Eng.

Canadian Council of Professional Engineers

Conseil canadien des ingénieurs

Find out more about the impact a P.Eng. can have on your bottom line. Visit us at www.PEng.ca

Association of Professional Engineers and Geoscientists of British Columbia • Association of Professional Engineers of Yukon • Association of Professional Engineers, Geologists and Geophysicists of Alberta
Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories • Association of Professional Engineers and Geoscientists of Saskatchewan • Ordre des ingénieurs du Québec
Association of Professional Engineers and Geoscientists of Manitoba • Professional Engineers Ontario • Association of Professional Engineers and Geoscientists of New Brunswick
Association of Professional Engineers of Nova Scotia • Association of Professional Engineers of Prince Edward Island • Association of Professional Engineers and Geoscientists of Newfoundland