

THE KEYSTONE PROFESSIONAL

In This Issue:

- Amendments to the Environment Act
- Annual Committee Reports
- Design...as a political process



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

SEPTEMBER 2003
www.apegm.mb.ca



Report of the Executive Director and Registrar

D.A. Ennis, P.Eng.

Since my previous report in September 2002 I have reported or commented on a number of other topics in subsequent issues of this publication. They were:

- Multi-Jurisdictional Licensure in Canada (December 2002)
- CCPE and Climate Change (February 2003)
- CCPE 2002 Survey of the Professions (February 2003)
- Limitation on the Period of Exposure to Liability (February 2003)
- Government's Initiatives on Qualifications of Immigrant Professionals (February 2003)
- Continuing Professional Development and the Declaration of Compliance (April 2003)
- National Memorandum of Understanding on Discipline and Enforcement (April 2003)
- Renewal of the Engineering Building at the University of Manitoba (April 2003)
- Copyright and Professional Service Agreements (June 2003)
- Certificates of Authorization (June 2003)
- Privacy Legislation (June 2003)

The articles from the Keystone Professional are available at the APEGM website at www.apegm.mb.ca/keydocs/mpe/index.html. Copies can also be obtained by calling the Association office at (204) 474-2736.

Most of the activities and issues before the Association are reported on elsewhere in this publication by

the various committees and the Director of Admissions. This report is intended to cover matters not dealt with by them and to update some of the topics reported on earlier.

Financial

As Treasurer I report that the Association continues to be in a sound financial position. The level of reserves is such that they could sustain the Association's operations for one year. The Auditor's Report and 2003 Financial Statements are available from the Association office. They will be distributed at the Annual General Meeting and are also posted on the Association's website. There has been a small increase in the membership. At June 30, 2003, there were 3883 members on the register (up from 3783 in 2002), with 2781 being residents of Manitoba. Of the 3883, 246 are professional geoscientists, of which 19 hold dual registrations. Additionally, there are 289 holders of a Certificate of Authorization and another 625 persons enrolled as members-in-training.

With the numbers being relatively static and operating costs inevitably on the increase, the budget adopted by the Council for the membership year 2004 requires a dues increase. The payment in 2004, with GST included, will be \$256, up from \$248. Among the factors are increases in the allocation made in support of the Canadian Council of Professional Engineers and the Canadian Council of Professional Geoscientists activities and a premium increase for the National Professional Liability Insurance Program, and administrative and

legal costs associated with the new privacy legislation.

Inter-Profession Liaison

The Association has memoranda of understanding and obligations under the Act, which provide for formal liaison with some other professions.

There are joint boards and committees established as part of those obligations, and for which I serve as the primary contact.

Certified Technicians and Technologists of Manitoba (CTTAM)

The Engineering, Geosciences and Applied Sciences Inter-Association Relations Joint Board is established by the Act for the purposes of developing and recommending processes for cooperation by the two associations in carrying out their respective areas of responsibility in the public interest, and for the resolution of issues or disputes respecting areas of practice. The Chair of the Board, Roy Schellenberg, was appointed by the Minister of Labour. The APEGM representatives on that

Board are Len Chambers, P.Eng., C.E.T., Vic Thielmann, P.Eng., and Allan Silk, P.Eng., as the Council contact. Michael Bulman, P.Eng., C.E.T., has recently stepped down after five years of service. One of the issues before the Board has been the question of a Certificate of Authorization for corporations that wish to provide services that constitute the occupation of applied science technology. The Board has also been monitoring the developments in British Columbia where the engineering and technologists associations have asked that the Provincial Government combine them into one Association under one Act.

Manitoba Association of Architects (MAA)

The Engineering and Geoscientific Professions Act and The Architects Act established the Engineering, Geosciences and Architecture Inter-Association Relations Joint Board. It too is intended for the purposes of developing and recommending processes for cooperation by the two associations in carrying out their respective areas of responsibility in the public interest, and for the resolution of issues or disputes respecting areas of practice. The Chair, Tom Bleasdale, is also appointed by the Minister of Labour. The APEGM representatives are Doug Stewart, P.Eng., Ken Drysdale, P.Eng., Bill Thomas, P.Eng., and Alf

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

84th ANNUAL GENERAL MEETING

Fairmont Hotel, Winnipeg
Friday, October 24 & Saturday, October 25, 2003



THE KEYSTONE PROFESSIONAL

SEPTEMBER 2003

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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.

Although the information contained in this publication is believed to be correct, no representation or warranty, expressed or implied, is made as to its accuracy and completeness. Opinions expressed are not necessarily those held by the APEGM or the APEGM Council.

New Members Registered May, June & July 2003

M.J. Boissonneault	R.I.M. Jacobs	G.G. Powell (ON)
H.C. Bredenholler-Prasad	W.T. Johnson (SK)	C.M. Recto
T.A. Brockman (BC)	D.J. Kell	S.J. Robertson
K.B. Brown	M.A. Kenaschuk (AB)	Y.J.J.M. Roy (AB)
J.D. Buchko	M.D. Kirkham (SK)	S.L. Santarossa
S.D.W. Carron (AB)	H.D. Knynsberg (AB)	S.K. Sharma
P. Chang (ON)	P.L. Kopystecki (QC)	R.I.M. Sifrim
M.J. Chiasson (ON)	M.A. Kuusela	W.K. Silvester
P.T.C. Chung Wing (QC)	H. Labridis (BC)	M. Singh (AB)
N. Cicek	J.T. Larsen (AB)	M.N.T.E. Soliman
R.E. Dale (ON)	I. Lim	T.J. Sontag
W. Deong	L.D. Llewellyn (AB)	J.D. Stidwill
M.L. Dragomir	M.J. Long	M.E.J. St. Laurent
R.K. Dueck	E.E. Marjerrison (ON)	M.V. Stribryni (AB)
M.T.R. Faith (SK)	J.L. McNeill	D.A. Strong
M.A. Fournier	C.R. Michaluk	W.A. Townsley (AB)
S. Giguere (QC)	E.S. Mickelson (ON)	L. Vezina (QC)
D.J. Gillich	L.B. Mihalik (BC)	I. Wasilewski
S.L. Goerz	D.G. Mitchell	P.J. Wheeler (AB)
P.J.E. Hatton (AB)	R. Moberg	S.W.G. Yee (BC)
A.J.M. Hermenegildo	M. Morin (QC)	K.K. Young
J. Hu	K.L.P. Mruss	Y. Zhang
T. Huynh	A.G. Mulholland (ON)	

Members-In-Training Enrolled May, June & July 2003

P.J. Allan	D.G. Dreger	B.C. Jones	L.M. Peters
U.D. Annakkage	A.D. Erhardt	A.J. Leslie	D.M. Prisco
M.H. Basri	C.M. Friesen	T.R. Lytwyn	B.J. Pullman
E. Bergen	M. Ghimire	K.L.M. Mahoney	S.S. Sadaka
S.G. Blonski	K.L. Gompf	M.G. McClelland	G.A. Siemens
J.A. Brandt	K.I. Greenlay	D.L. McIntosh	J.M. Simpson
L.C. Bunn	A.D. Hachkowski	M.A. Mihalchuk	E.W. Smith
J.V. Catris	M.M. Hamilton	J.P.Z. Nedohin-	M.J. Suszko
M.M.R. Dawood	A.M. Harrison	Macek	E.D.J. Toupin
M.D. De Fehr	C.A. Jeffrey	T.K. Ooi	P. Yahampath

Licences Issued May, June & July 2003

J.R. Benson III (NC)	R.D. McFadyen (NC)	R.L. San Giacomo (NY)
J.E. Burson (TX)	G.V. Nagel (MN)	R.F. Williamson (IA)
S.W. Honeycutt (TN)	L.A. Robbins (FL)	

Reinstatements May, June, & July 2003

K.D. Barlishen	H.J. Chorney	D.S. Montgomery
B.K. Berglof	Y.C. Leong	T.M. Vardy

Resignations May, June & July 2003

M.A. Petursson	C.L. Allen
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Certificates of Authorization

Adjeleian Allen Rubeli Limited	Genivar Consulting Group Ltd.
Bouthillette Parizeau & associés inc.	Gulay Enterprises Inc.
Cedar Ventures Incorporated	Honeycutt Engineering Inc.
Demand Side Energy Consultants Ltd.	Ingram Consulting Ltd.
Design, Construction & Inspection	McFadyen O'Briant Consulting Engineers, Inc.
EMC Engineering Inc.	Robert E. Dale Limited
Enerco Engineering Ltd.	Science Applications International Corporation
ERM Associates Inc.	Wheeler Geoconsult Ltd.
Footprint Engineering Inc.	
Fulcrum Engineering Limited	

In Memoriam

The Association has received, with deep regret, notification of the death of the following member: O.R. Thorsteinson



Professional Development

Potential Amendments to the Manitoba Environment Act

By: L.J. Van Dusen, P.Eng.

At the June 18, 2003, APEGM Professional Development luncheon, a presentation on potential amendments to the Manitoba Environment Act was given by Mr. Larry Strachan, P.Eng., Director of the Environmental Approvals Branch of Manitoba Conservation.

In June 2000, the Government had announced, as part of its Sustainable Development Strategy, its acceptance of the recommendations of the "Report of the Consultation on Sustainable Development Implementation (COSDI)". The report contained over 60 recommendations related to environmental, land-use, and resource decision making. Implementing the COSDI recommendations would require changes to the legislation, policies, and procedures of many government departments, including amendments to *The Environment Act*.

In September 2001, a multi-stakeholder consultation process consisting of a Core Group and an Advisory Committee was initiated to develop detailed recommendations for amendments to *The Environment Act* to implement the suggestions set out in the COSDI report. The objective was to update *The Environment Act* by broadening its scope to include consideration of social and economic issues in addition to environmental issues. As well, the thoroughness of assessments under *The Environment Act* was to be improved, and public participation in the process was to be strengthened. In April 2002, a report from the Chair of the Core Group was submitted to Government with several issues still unresolved (i.e., non-consensus issues).

Mr. Strachan provided the perspective of the Environmental Approvals Branch on potential *Environment Act* amendments in response to the recommendations of the Core Group. It was emphasized that at this time the government had not yet made any final decisions on changes to *The Environment Act*.

In responding to the recommendations of the Core Group on the non-consensus issues, Mr. Strachan



outlined where the Environmental Approvals Branch felt that amendments should be made to *The*

Environment Act. Examples of potential amendments included:

- clarifying and limiting the use of

"preliminary steps" in licensing to allow proponents only to gather additional site data rather than allowing initial construction to occur;

- allowing sequential or staged licencing (e.g., staged licences allowing for construction, start-up, and operation) following the assessment of the entire development;
- enabling the Director to enlarge the scope of an *Environment Act* proposal assessment to allow for consolidation of related, interdependent proposals;
- providing for consolidated or joint hearings with other bodies (e.g., Public Utilities Board); and
- allowing for collaboration between proponents and interested parties.

In summarizing his presentation, Mr. Strachan also noted the many areas where the Core Group was able to achieve consensus on issues. Examples included establishing appointment criteria for members of the Clean Environment Commission (CEC) and providing for public input to the Terms of Reference for CEC hearings. As stated earlier, it will now be up to the government to decide which amendments are to be made to *The Environment Act*. ■

The Workplace Safety and Health Act in Construction and Design

By: S. Kass, P.Eng.

A breakfast presentation was organized by the APEGM Professional Development Committee on June 10, 2003. Sixty five engineers and professionals gathered to hear Mr. Jeff Parr, Assistant Deputy Minister of Manitoba Labour & Immigration.

Mr. Parr highlighted the recent changes to *The Act* and how they impact engineering design and construction. He emphasized the need to build a strong workplace safety and health culture through public awareness, training, prevention, and defining responsibilities. He also explained the right of the employees

to know, refuse, and participate as being essential under *The Act*. Employers should exercise due diligence and reasonableness to prevent harm as well as ensure competent supervision. Workplaces with 20 or more workers must form a safety and health committee.

Mr. Parr gave a number of examples to explain the intent of *The Act*. His presentation was informative, interesting, and relevant to the audience. To view the full presentation, please visit the APEGM website.

The PD Committee would like to thank Mr. Parr for taking time

from his busy schedule to talk to our members. ■



Report of the Executive Director and Registrar

Continued from page 1

Poetker, P.Eng., with Council representation by Ray Hoemsen, P.Eng. The Board has worked for some three years on the development of a Memorandum of Agreement on the involvement of members of the two Associations in the design and construction of buildings. It would require changes to the governing legislation and was presented to the Councils of the two Associations. While the APEGM Council has agreed to sign the agreement, the MAA Council has provided notice that the terms are not acceptable.

Association of Manitoba Land Surveyors (AMLS)

APEGM entered into a Memorandum of Understanding with AMLS in 1998. It established a Joint Committee that has a very similar purpose and process as those established in Legislation with CTTAM and MAA. APEGM representatives on the Joint Committee

are Don Mulder, P.Eng., Jim Thomson, P.Eng., and Darwin Kupskay, P.Eng. The AMLS is proposing a replacement of its governing legislation, and there have been a number of consultations in that regard. Other than an issue of the conditions under which a holder of an APEGM Certificate of Authorization could employ a Manitoba Land Surveyor and offer land surveying services, there is consensus.

Manitoba Association of Landscape Architects (MALA)

Given the interface of members of that profession with some professional engineers and professional geoscientists involved in the development of land and water areas and in the preservation of the environment, APEGM entered into an MOU with MALA in 1998. It is focused on clarifying the similarities and differences in the professions and developing a process to, where appropriate, foster the involvement of the professions on projects. Discussions have been held on pro-

posed title legislation that is being proposed to the Manitoba Government by MALA.

APEGM Foundation Inc. and Manitoba Universities

There has long been a concern that many students in degree programs leading to academic qualification for registration as a professional engineer or professional geoscientist are not aware of the requirement or the process for registration. This lack of awareness has been a factor in the reality that significant numbers of graduates either never initiate the registration steps or, at best, attempt to do it later in their careers and thus miss out on being able to count valuable experience toward the pre-registration program.

In response, the Council, working initially with and at the initiative of the Faculty of Engineering at the University of Manitoba, has decided to commit significant financial resources to a long-term program focused on raising and sustaining awareness and strengthening relationships with the Faculties and student bodies. The initial expenditure will be targeted at securing the naming rights to the design laboratory (the successor to the old Room 229) in the University of Manitoba's Engineering and Information Technology Complex currently under construction. The effect will be that graduates of engineering programs will "make the link" to APEGM by having spent many hours each year in, and having become associated with, the "APEGM Design Laboratory". There will also be commensurate funding available for the geoscience programs at the Manitoba Universities. To provide the opportunity and flexibility for supplementary fundraising in support of this and other potential future initiatives, a separate corporation to be registered as a charity, APEGM Foundation Inc., is being established. Members will have the opportunity to contribute on an individual basis as a voluntary check-off at the time of paying their annual renewal dues and receive a charitable donation receipt. Similar arrangements are used in Manitoba by the pharmacists, chartered accountants and the College of Physicians and Surgeons.

There is money and a multi-year commitment involved. More information on the commitment and the Foundation (a separate legal entity

from APEGM) will be provided at the Association's AGM on 25 October 2003.

Amendment to The Engineering and Geoscientific Professions Act

The Association is seeking an amendment to the Act as a house-keeping measure to provide greater certainty for, and to facilitate some of its activities in the areas of educational support and advancing and promoting the professions in the public interest.

Privacy Legislation

As reported in June, Manitobans and APEGM will be required to comply with Federal Government legislation entitled the Personal Information Protection and Electronic Documents Act, or "PIPEDA", effective 01 January 2004. Information on PIPEDA can be obtained on the internet at www.privcom.gc.ca/index_e.asp. This legislation will require changes to the Association's operations, and in the information and authorizations required from members, members-in-training, and student members, as well as in providing for the security of personal information.

In particular, other than for the name, title, or business address or telephone number of a member who is an employee of an organization, the Association will no longer be able to provide you with any information about another member without his or her authorization. We will also be required to verify your identity when communicating to you on matters that pertain to your own Association records. We ask for the cooperation of members in working through the changes and providing the appropriate authorizations.

International Engineering Graduates

As reported in February, the Federal and Manitoba Governments have determined that speedier integration of immigrant professionals into the economy is a priority and are encouraging the various licensing bodies to explore ways to help foreign-trained engineers integrate as quickly and efficiently as possible into the engineering profession in Canada as licensed professional engineers, while maintaining standards. The Canadian Council of Professional Engineers has a study underway to identify best practices

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**16TH CANADIAN INSTITUTE OF MINING,
METALLURGY AND PETROLEUM MINE
OPERATORS' CONFERENCE**

October 19 – 22, 2003
Saskatoon Centennial Auditorium
Saskatoon, Saskatchewan, Canada




LARGEST MINE OPERATORS CONFERENCE IN CANADA

Over 100 Display Booths •• Over 50 Speakers •• 2 Days of Exhibits
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Uranium, Base Metal and Oil Sands Operations Available •• Diesel Emissions
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— SESSION TOPICS INCLUDE —

*Mining Methods: Review of Methods / Selection Criteria • Shaft Sinking/Deepening/
Construction Techniques / Shaft Sinking / Deepening Projects / Contracting / Financing
for Shaft Development • Mine Ventilation: Ventilation Systems / Integration in the
Mine Design Process / Computer Modeling • Health and Safety: Continuous
Improvement / Quality Management / Involvement / Impact on Mine Operations •
Mine Support: Design Considerations / Product Development/Testing / Computer
Applications • Mining Innovation / Automation: New Trends / Role of Automation in
Improving Safety and Productivity • Mine Maintenance: Contributions for Optimizing
Mine Productivity / Maintenance Management Systems • Mine Planning: Design
Process / Implementation / Application of Computer Programs • Mine Economic
Property Evaluation: Investment Analysis / Property Evaluation / Assessment of the
Conditions Affecting Costs • Shift Work and Cost: Underground Coal and Potash /
Surface Shift Rock Issues / Instrumentation and Support • DIRTIP (Diesel Emissions
Evaluation Program) Workshop: Scheduled on Sunday, October 19 from 8:00 a.m. to
4:00 p.m. (additional registration cost of \$100 + GST for the workshop)*

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Report of the Executive Director and Registrar

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with the intent of providing a recommendation on a model for all provinces.

APEGM is experiencing a significant increase in applications from international engineering graduates and the Association's operations will be affected by the volume of work and the need to respond to this development.

Declaration of Compliance and Professional Development

Members are reminded that the Association's by-laws provide that, beginning with the 2004 membership year, members in the practising category will be asked to make the following declaration at the time of the payment of the annual dues for the renewal of registration:

"I declare that I have, on an ongoing basis, acquired the knowledge, skills and level of awareness necessary to undertake the professional services that I currently provide, or intend to provide, to my employer and clients, and to fulfill my professional responsibilities to the public."

Indications are that members are abiding by their responsibility to "possess the training, ability and experience necessary to fulfill the requirements of any engineering or geoscientific work undertaken", and the declaration is intended as an annual reminder of that responsibility.

For those who wish the convenience of some guidance and a system in carrying out their responsibility, the Association has a Professional Development guideline. The guideline, along with a sample form and planning example, is posted on the Association's web site. The website also has extensive

information on professional development opportunities and links to professional and technical organizations, institutions, and course providers. The "Upcoming Events" page typically provides information on 100 opportunities and the links to other organizations offer several hundred more.

National Secondary Professional Liability Insurance

There have been changes to this program, particularly with respect to exclusions on mould-related claims. Once again, I encourage members and members-in-training to familiarize themselves with the policy and its conditions and exclusions. Questions regarding the program are to be directed to the program hot line at 1-800-361-9080 where staff of the broker are available to answer questions from 8:00 a.m. to 4:00 p.m., Monday to Friday, central time. Do not direct your questions to the APEGM office, as there is a condition in the contract with the insurer that the Association does not interpret the policy.

Conclusion

Once again, the year has been one of challenges and changes in the operations of the Association, and there will be more in the next year.

I am continually and consistently impressed with the commitment and the selfless contributions of the volunteers, both elected and appointed, who serve this Association. In particular, we benefit from the participation of persons who are neither engineers nor geoscientists, but who willingly assist the Association in fulfilling its mandate. Last but not least, I recognize and thank the staff of the Association office for their commitment and hard work. The "volunteer" component of their participation on behalf of your professions is not recognized often enough. ■

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.



Scholarship Competition 2004

The Canadian Council of Professional Engineers invites engineers to enter the 2004 National Scholarships Program Competition.

Eligibility Requirements

Applicants must be:

- Either a P.Eng., Eng. or *ing.*
- Pursuing postgraduate university studies and research.

CCPE-Encon Scholarship

Value: \$10,000

Number: One

Field: **Civil engineering**

Stipulations: Candidates must be accepted or registered in a Faculty of Engineering

CCPE-Manulife Financial Scholarships

Value: \$10,000

Number: Three

Field: **Engineering**

Stipulations: Candidates must be accepted or registered in a Faculty of Engineering

CCPE-Meloche Monnex Scholarships

Value: \$7,500

Number: Two

Field: A field **other than engineering**

Stipulations: Candidates must be accepted or registered in a faculty **other than engineering**

Application forms available from:

CCPE National Scholarship Program
 Canadian Council of Professional Engineers
 1100-180 Elgin Street, Ottawa, Ontario K2P 2K3
 Tel: (613) 232-2474, Fax: (613) 230-5759
 E-mail: member.services@ccpe.ca
 Web site: www.ccpe.ca



CANADIAN COUNCIL OF PROFESSIONAL ENGINEERS
 CONSEIL CANADIEN DES INGÉNIEURS

Application Deadline — April 1, 2004



Director of Admissions' Report

S. Sankar, P.Eng., P.E.

As a new 'recruit' with APEGM, much of my activity in the past nine months has included becoming familiar with the processes and tasks of APEGM, the staff, and the committees. I'm blessed with being able to work with an excellent and very organized staff, which includes Deidre Norris, Registration Coordinator, Lorraine Dupas, Admissions Coordinator, William Boyce, Manager, Operations & Finance, Shirley Bruce, Accounting and Membership, Joan McKinley, Administrative Officer, and Jenny Borecky, Administrative Assistant. Of course, the person who keeps the whole thing going is Dave Ennis, Executive Director and Registrar who I believe may actually live at 850A Pembina – because he's almost never away from the office.

Once of the more interesting initiatives I've seen happen in my stay here is the launch of the pilot International Engineering Education Qualifications (IEEQ) program. Fuelled almost single-handedly by Dr. Ron Britton of the Faculty of Engineering, this program's mandate is to help accelerate the process of obtaining professional registration for internationally-trained engineering graduates. The entry point for this program is through APEGM, and for those individuals who qualify, this can provide an opportunity to take a certificate program through the Faculty of Engineering instead of writing exams. It can also pro-

vide the opportunity for these same individuals to become familiar with Canadian engineering practices and to be able to share their experiences with other internationally-trained, as well as Canadian-educated, engineering graduates.

Geoscience has had a few changes since last year. The grandparenting phase has ended, and starting on January 1, 2003, APEGM adopted modified versions of the CCPG syllabi for geology and geophysics as the academic requirement for geoscience. All geoscience graduates, whether from the Honours, Majors, or Specialist program, (or any other kind of geoscience program) must now meet the requirements of one of these syllabi in order to qualify for registration. If they don't meet the syllabi with their transcripts, they can still become registered, but only after writing exams, taking extra courses, or/and completing a thesis. APEGM has met with and will continue to meet with University of Manitoba geoscience students to talk about the syllabi and the need to plan course selections as early as possible.

Another initiative at APEGM has been the encouragement of our Student Membership program. This program has been in existence for a while, but this year we plan to 'go all out' to encourage student membership. By interfacing closely with the University of Manitoba Engineering Students' Association (UMES),

we've come up with a few ideas that might spark some interest in our up-and-coming graduates. The first idea is the presence of an APEGM booth during student orientation – perhaps not a really new idea – but this year we'll be giving away freebies to those who sign up. The second idea has been the encouragement of UMES to sell student memberships – by giving back a rebate so that they can have additional revenue to fund their activities. We hope this will encourage the 'leaders' in the engineering faculty to 'talk up' the program and encourage others to sign on. Indirectly related to student membership is the development of an automated professional practice test (PPT), which is being developed through Dr. Ron Britton's Introduction to Engineering course. Erin Searcy, EIT, has been working industriously to assist in developing the questions and perfecting the automation. In line with encouraging student membership, APEGM has adopted a policy that allows student members who've taken the PPT either through Dr. Britton's course or through APEGM, to count the PPT toward their pre-registration program. That is, they will no longer be required to write their PPT upon being enrolled as a member-in-training – provided they remain a student in good standing with APEGM.

The pre-registration program hasn't changed a lot since last year, although some interesting new initiatives are in the works. Stay tuned.

A draft National Guideline for Engineers-in-Training has been developed by the Canadian Engineering Qualifications Board (CEQB) EIT Committee. This contains suggestions for such things as the purpose of an Engineer-in-Training program, the kind and duration of engineering work experience required, professionalism and

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Climate Change
Energy Efficiency
Extreme Weather
Carbon Dioxide
Solar Lawnmowers
Wind Power
Fuel-efficient Vehicles
Green Commuting
Government Reports
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CCPE Director's Report

P. Washchyshyn, P.Eng.

The Past Three Years

In Calgary, in May 2003, I concluded my three years of service as the APEGM member of the CCPE Board of Directors. It was a very rewarding three years for me personally, and I hope that I have made some meaningful contribution to the engineering profession during that time and represented the constituent member adequately.

My arrival at the board found a very divided group, where certain regional aspirations were placed well above the interests of the council. Extremely contentious and divisive issues were apparent, resulting from the software engineering confrontations and the treatment of the legal case in Newfoundland. This was clearly an issue in the resignation of the CEO.

The Ontario Society of Professional Engineers (OSPE) was created without much dialogue with CCPE or other constituent members outside of Professional Engineers Ontario. In fact, Ontario Board members were put in a very difficult situation at the CCPE Board.

The Initial Assessment Program came to an end, resulting in a significant reduction in revenues to CCPE. Fortunately, reserves of previous years were available to overcome the very sudden change in revenues. In fact, the very purpose of the reserves was realized. Nonetheless, this started the debate on the continuing value of CCPE and the value received from the fee structure. At the end of the day, the debate was had, and a new strategic plan was established with significant staff reductions and change to certain programs.

Current

I feel I leave behind an organization with an experienced CEO who enjoys the support of a generally united Board of Directors.

CCPE has embarked on a project entitled, "From Consideration to Integration" with a goal to improve the integration of international engineering graduates into the profession while maintaining appropriate admission standards and public safety.

Canadian Engineering Accreditation Board (CEAB) and Canadian Engineering Qualifications Board (CEQB) continue to perform exceptional service for the profession, leaving the Canadian engineering regulatory bodies the envy of most of the world. I had the privilege of serving as the CCPE Board representative to CEAB for one year and can personally attest to the dedication and conviction of the extremely professional group of volunteers who work for the betterment of the engineering faculties across the country.

The Research Committee (RC), a downsized version of the Canadian Engineering Research

Board, continues to be active with significant projects soon to be published, namely the 2002 National Survey of membership of the profession and the annual survey of degrees granted and enrollments in Canadian universities. These two surveys provide valuable information on trends in the engineering education and professional enrollment for the future planning purposes related to the relevance of licensure and programming at Canadian universities. Subsequent studies to further understand the things identified in the member survey, such as the demographics of engineers and the impact on the profession, will be up and coming. To avoid future occurrences such as the software engineering debates, the RC continues to monitor emerging technologies to be one step ahead of the issue.

"The strength of the profession lies in its national unity and mobility for engineers wherever they may be resident."

In the recent past, the Government Relations (GR) Committee was established and undertook position papers such as: a rational statement on climate change, comment on immigration, presentations with respect to drinking water quality, and annual addresses to the Minister of Finance with respect to his budget. Through the activities of the government relations committee, CCPE is certainly becoming the voice of engineers in the country.

A task force or liaison committee from CCPE has commenced discussions with OSPE that should have been held many years ago; nonetheless it is never too late. The successes or failures of OSPE will have a significant impact on professional engineers across the country. This forum is a logical place for such discussions. I chaired this committee for the last year and may be requested to stay on for a while for the sake of continuity.

Currently we see a strengthened relationship with engineering students. These are the people who want to follow and emulate us and they should be supported as much as possible by the profession.

The engineering awards program in association with the annual meeting has been elevated to a classic event, receiving national recognition and publicity.

I offer one warning, however, that there appears to be an undercurrent for legislated regional representation and, again, the question of value for fees in some constituent members. These issues must be continually, effectively addressed.

The Future

The strength of the profession lies in its national

unity and mobility for engineers wherever they may be resident. Canadian engineers are envied by most of their worldwide colleagues. Let's build on that strength.

Engineering students need to be supported and informed on the relevance of professional engineering licensure to see the success of engineering in the future. These young people wish to emulate us and since they are our future, we should support them in their goals as much as possible.

Funding for CCPE and the constituent members must be adequate to fulfill and extend its role. To paraphrase from John F. Kennedy, "ask not what your association can do for you, but what are you prepared to pay for it". If proper funding is not available from the membership, government grants will also disappear and self-fulfilling prophecies will easily be achieved. I firmly believe that membership should fund the core business of CCPE and the constituent members adequately, and that the core business needs to be clearly understood and communicated.

Finally, it is important that our provincial and national award ceremonies continue at an even more impressive and participatory level than in the recent past. Celebrating our achievements can only serve to enhance our relevance, make membership more attractive, communicate with the general public (especially students), and bring the blend of the regulatory and advocacy functions to a positive self-fulfilling prophecy. Let's be proud of what we do and celebrate our achievements, so that every professional engineer becomes an ambassador for the profession.

Once again I wish to express my sincere thanks to the APEGM Council for its confidence in me and the opportunity to serve as your representative on the Board of the CCPE for the past three years.

CCPE and APEGM will be very effectively served by my successor to the Board, Dr. Ron Britton. I will provide him with any background information, advice, or opinions he may request. ■

Director of Admissions Report

Continued from page 6

ethics requirement, professional development and volunteer related activities requirement, and different routes whereby one can eventually become registered. It's quite interesting to read the responses from various associations – which are all over the map – with some associations contending that a mandatory and prescribed EIT program is highly beneficial and assures the quality of professionals that are coming out, and other associations contending that an EIT program, though beneficial, should not be mandatory because there are different routes to professional engineering status that are more suited to certain individuals. For example, some contend that older or more mature engineering graduates are less able to benefit from a prescribed program than those that have graduated more recently.

Thus ends my first report as Director of Admissions. I'm looking forward to continuing in this role and being able to continue contributing to APEGM in this capacity. ■



Manitoba CCPG Director's Report

A.H. Bailles, P.Geo.

The Canadian Council of Professional Geoscientists (CCPG), an autonomous federation of provincial and territorial professional associations, exists solely to provide services to its member associations and does not license or certify individual geoscientists. With over 8000 geoscientists currently registered in 11 of 13 Canadian provinces and territories, CCPG plays an important role in: 1) coordinating admission standards and other activities affecting Canadian professional geoscientists (particularly their mobility), 2) acting as a forum within which common issues are addressed, and 3) representing Canadian professional geoscientists nationally and internationally.

At the most recent CCPG Board of Directors Meeting, which was held in Vancouver, British Columbia, on May 31, 2003, the following topics were addressed:

Inter-Association Mobility Agreement (IAMA)

The IAMA signed in Saint Andrews in May 2001 is designed to expedite rapid transfer of professional registration between provincial and territorial professional associations. Although the IAMA does facilitate this process, some difficulties have been identified with regard to variability in procedures used by jurisdictions to handle transfers. As a result, the time to process transfers ranges from a few days to several weeks.

A CCPG Task Force set up in May 2002 to review Constituent Associations' (CAs') procedures for processing transfer requests has shown that the greatest impediment to rapid turn-around stems from the way in which transfer requests are handled. Requests handled directly by an individual (e.g., Registrar or Executive Director) with the authority to approve an IAMA application are handled in under a week. Those that must be approved by a committee or board (e.g., Registration Committee, Admissions Board) typically take over a month to process. Although this is largely a consequence of these groups only meeting on a monthly basis, it can also stem from these boards insisting on processing IAMA transferees by their local CAs' knowledge and experience standards.

A CCPE survey of CAs' procedures for processing transfers under the IAMA is underway. It is anticipated that, together with the CCPG survey, this will lead to streamlining the procedures used by CAs to transfer professional registration of both engineers and geoscientists to other jurisdictions.

Progress with changing procedures to process IAMA transfers is slow due to the fact that the procedures have their basis in legislation governing the CAs. APEGGA has shown leadership in changing its procedure for handling transfers

under the IAMA by giving its Executive Director the authority to approve transfers under the IAMA subject to later approval by the Admissions Board and Council.

Multi Jurisdictional Registration (MJR)

In May 2002, the Staff Liaison Group (SLG) suggested that CCPG pursue Multi-Jurisdictional Registration (MJR) rather than individual Incidental Practice agreements between CAs because it does not require any changes to the CAs' legislation and could be achieved in a shorter time frame. One of the major stumbling blocks to MJR was identified to be the financial implications to smaller jurisdictions (NWT, APEGS, and APEGM), which depend on funds from out-of-jurisdiction registrants to be able to function. A report prepared for the CCPG by Prism Economics and Analysis entitled, "Streamlining for Multi-Jurisdictional Licensure of Geoscientists" has examined the financial feasibility of MJR by considering estimated take-up and revenue implications. This report is based on:

- administrative data supplied by associations on the number of resident and non-resident registrants; and
- data from CCPE's 2002 National Survey that provided data on those geoscientists who belong to associations affiliated with CCPE (does not include APGO, OGQ, APGNS).

The report indicates that Multi-Jurisdictional Registration of geoscientists is financially feasible with an estimated 19% take-up driven by a combination of financial advantage and ease of registration.

Some concerns were raised about the Prism report because it: 1) did not include "geoscientists only" organizations (APGO, OGQ, APGNS), 2) used numbers that were estimated and, in some instances, suspect, and 3) is at odds with regard to some results of a survey of geoscientists by ASBOG in 2002. Also, the report assumed that all jurisdictions would accept the ability of other CAs to register professionals in their jurisdictions simply by their members opting for MJR.

CCPG has recommended that any additional survey include "geoscientist only" organizations and target not only members but also major employers of geoscientists. The latter was considered necessary, as the employers would likely bear the cost of MJR. Major employers of geoscientists are anticipated to support MJR because of the convenience and ease of registration of employees in all jurisdictions.

International Cooperation Agreements

International Cooperation Agreements are an important first step towards international mobility.

Such agreements allow the evaluation and recognition of foreign geoscience qualifications in Canada and, conversely, lead to qualifications of Canadian geoscientists being recognized abroad, thus securing Canadian practitioners' place in foreign markets.

CCPG has been actively pursuing Cooperation Agreements with many other international organizations. As part of this process, the Canadian Geoscience Standards Board (CGSB) has been examining the equivalency of knowledge and experience standards in other countries in order to recommend mutual recognition agreements with foreign bodies and to monitor the activities of those bodies. Subcommittees have prepared reports for CGSB on many of the international associations. This information will be summarized by CCPG and used to formulate recommendations to CAs with respect to the recognition of professional qualifications of foreign professional geoscientists.

At the Annual General Meeting of CCPG on June 1, 2003, approval was given to change CCPG By-Laws to permit two classes of membership in the Council, namely Constituent Associations and International Associates. Although not eligible to appoint Directors, International Associates will be represented at public Council meetings and can serve as members of Council Committees. The Association of State Boards of Geology (ASBOG) is expected to be approved as the CCPG's first International Associate once the By-Law change is official. This new category of membership is expected to expedite the establishment of international recognition of CCPG member CAs and the attendant cooperation agreements.

Status of Other Jurisdictions in Canada

The status of a number of jurisdictions in Canada has changed as follows:

- APGNS: Legislation for APGNS was passed in March 2003 under the Geoscience Professions Act. APGNS has 72 members, plus 6 in the approval stage. The organization is separate from engineers and is expected to remain separate from engineers for the foreseeable future. APGNS signed the IAMA at the CCPG Annual Meeting.
- APEGNB: There are currently 84 P.Geo.s and 7 GITs in APEGNB. APEGNB has mandatory primary liability insurance for all APEGNB members. Provisions are available to waive this insurance requirement where insurance is unavailable (e.g., nuclear field).
- OGQ (Ordre des Geologues du Québec): OGQ signed the IAMA at the PDAC in March 2003.
- APGO: The "in force" date for licensure of geoscientists in Ontario was August 30, 2002. Corporations operating in Ontario will require a Certificate of Authorization after March 31, 2003.

As of May 2003, APGO has 1118 applications for membership of which 820 have been processed and accepted. APGO estimates that

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Manitoba CCPG Director's Report

Continued from page 8

2000 of the approximately 3000 geoscientists in Ontario will eventually register. Geoscientists registering in APGO are required to have successfully completed a Professional Practice Exam. APGO requires copies of original references in order to register transferring geoscientists under IAMA. Because many CAs do not retain this information on file indefinitely, older geoscientists are often required to "start from scratch" when they register with APGO.

- Yukon: The Yukon does not currently register geoscientists but is working towards completion of its Act, possibly to be completed before the end of this year.

Miscellaneous Issues

Upcoming Review of Knowledge and Experience Standards

Knowledge and experience standards are up for review in 2005. It is important for transfers under the IAMA and MJR that these standards be universally acceptable. Local

CAs were asked to "think" nationally when they consider these standards. CGSB has compiled a set of common themes about what constitutes acceptable geoscience experience that will be used by CCPG to develop recommended experience standards for geoscientists. The development of new knowledge and experience standards will be done in consultation with local CAs to avoid the acrimony that occurred during development of the first set of knowledge and experience standards.

Stock Exchange Issues

Close ties are being maintained between CCPG and various stock exchanges in Canada and internationally. In 2002, CCPG was instrumental in having the Australian Stock Exchange (ASX) designate its members (CAs) as Recognized Overseas Professional Organizations (ROPOs). ROPOs are recognized as bodies to which Competent Persons may belong for the purpose of preparing documentation on exploration results (similar to Qualified Persons under NI 43-101). This includes engineers in all organizations affiliated with CCPG, but this recognition was not extended to

engineers in PEO, which neglected to apply for recognition.

CCPG Strategic Plan

A draft of a CCPG Strategic Plan for 2003-2009 was submitted at the May Annual Meeting of CCPG Directors. The CCPG Strategic Plan Task Force asked that the CCPG Directors and Executive Director review the document and send comments for consideration before the end of July. The draft plan reviews the mission and vision of CCPG, threats to CCPG, strengths and weaknesses of CCPG, goals and strategies, and an action plan.

Restructuring of CCPG

The undertakings of CCPG are beyond the ability of the CCPG executive to undertake alone. To relieve the burden on the CCPG executive, many of the duties of the executive were devolved to geoscientists, with CCPG directors assigned responsibilities to lead or direct committees and ad hoc task forces. In the first year this restructuring of tasks has provided input from a broader spectrum of geoscientists and permitted the CCPG executive to tackle some of the vision and strategic planning issues.

Loss of Revenue for CCPG

Similar to CCPE, CCPG has lost considerable revenue that was generated by reviewing foreign credentials. This loss of revenue comes at a time when it is apparent that many of the tasks required to be completed by CCPG require more robust funding. The CAs have indicated support for additional funding of CCPG. The nature and form of this additional funding is under consideration.

Further information, including links to all member associations of CCPG, is available on the CCPG web site at www.ccpge.ca. ■

REMINDER

Please notify APEGM (apegm@apegm.mb.ca) of any change to your e-mail address, mailing address, company information, or phone numbers.

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Academic Review Committee

B. Stimpson, Chair

Members

K.M. Adam
S. Balakrishnan
E. Bridges
D.G. Chapman
N. Chow
I. Ferguson
D.S. Jays
W.M. Kinsner
R.J. Partridge
D. Polyzois
R.W. Menzies
H.M.H. Soliman



The Academic Review Committee (ARC) is charged with the assessment of academic qualifications of applicants for registration. Applicants with Canadian Engineering Accreditation Board (CEAB)-accredited degrees are considered academically qualified subject to certain time limitations for the age of the degree. Other engineering degrees that have been recognized under various Mutual Recognition Agreements entered into by the Canadian Council of Professional Engineers (CCPE) as equivalent to CEAB-accredited degrees (e.g. ABET-accredited degrees from the U.S.A.), are subject to a Verification Assessment. All other degrees are assessed on a course-by-course basis against syllabi developed by the Canadian Engineering Qualifications Board (CEQB) of CCPE for engineering degrees, or against an APEGM syllabus for geoscience degrees. The result of each assessment is the assignment of examinations, which may number from zero (infrequently), to six or more. The examinations are used to confirm the academic qualifications of an individual and/or to fill in any subject gaps that the Association,

through its syllabi, considers essential knowledge for a professional engineer or professional geoscientist in Manitoba. For example, applicants who provide no evidence of having encountered probability and statistics or engineering economics in their degree programs will be assigned examinations in those disciplines.

ARC also establishes the date of academic qualification. For candidates who are successful in completing confirmatory examinations, this is normally the date of their undergraduate degree, i.e. the same as for applicants with CEAB-accredited degrees.

During the year July 1, 2002 - June 30, 2003, several transitions and adjustments were made in the assessment of applicants. In particular, in January 2003 the new ARC Operations Manual came into force, with the most significant impact being the assignment of the number of examinations. In this regard, the ARC has adopted the CCPE guidelines in an effort to come more into line with other Associations.

Geoscience applicants were also affected by the change at the end of 2002 to a new APEGM syllabus that closely follows that recommended by the Canadian Council of Professional Geoscientists (CCPG). The most significant difference from the CCPG syllabus is that APEGM added a requirement for a Geoscience Report in order to establish that the applicant is able to organize a project and prepare a professional report. In geoscience degree programs with a thesis or equivalent, this requirement is met. Where this is not the case, a work-based geoscience report with the appropriate characteristics such as independent work, is an alternative.

During the year, ARC assessed the academic qualifications of 66 applicants (60 engineering applicants and 6 geoscience applicants), assigned a total of 195 examinations, and considered 16 appeals. Over the same time frame, 33 applicants completed their academic requirements and

became academically qualified for registration.

The year did not close with all missions accomplished. In particular, a number of issues surrounding the assessment of geoscience and internationally-educated applicants will remain on the agenda for 2003-2004. Perhaps the most important work that must continue is to communicate the assessment process to applicants: not just the nuts and bolts of preparing for an evaluation of academic credentials, but the rationale of APEGM's approach to academic assessment in the context of its responsibilities under *The Engineering and Geoscientific Professions Act*.

The assessment of academic qualifications is, by no means, a simple task, and I therefore sincerely thank all the members of the Committee, Dave Ennis, Joan McKinley, Shirley Matile and her able replacement, Sharon Sankar, for their dedication. Meetings typically run well into the evening. To Ken Adam, who resigned from the Committee in June, 2003, after a cumulative service of 25 years, I say "merci beaucoup" and "bon voyage." ■

Member-in-Training Committee

S.X Arkiu, Chair

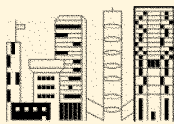
Members

R.L. Barry
T.F. Kelbert
R.E. Sporns
R.D. Stark

The MIT committee was pleased to welcome several members over the past year: Rob Barry, Ryan Sporns, and Twyla Kelbert. We are grateful for their contributions and welcome their fresh perspective. Brian Wilcox, who is now a P.Eng., left the Committee this past Spring. Congratulations, Brian, and thanks for your huge contribution during your term with the Committee.

The Committee's main focus has been researching and recommending improvements to the pre-registration program. During the past year, the Committee assisted in developing a revised progress report that will streamline supervisor reporting. This is currently being reviewed by the Experience Review Committee. Currently, the Committee is working on a proposal to obtain voting eligibility for MITs, as the Committee believes that voting privileges will greatly improve MIT involvement. We continue to work closely with the Experience Review Committee to resolve issues regarding MITs. Hopefully, we are on the right track with our activities and will improve the program for MITs.

Thanks to all of the Committee members for their efforts and contributions over the past year, and to the APEGM staff for their involvement in the activities of the MIT Committee. ■



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Geoscience Issues Task Force

C.R. Galeschuk, Chair

Members

- A. Aubut
- K. Costello
- J. Hayles
- R.A.S. Reichelt
- G. Young
- D.V. Ziehlke
- P. Fulton-Regula
(Recording Secretary)



The Geoscience Issues Task Force (GITF) is a group of professional geoscientists that has been assembled to deal with issues that relate to the geoscience community and professional registration. We remain a source of information and feedback to the administration of professional geoscience registration within APEGM.

The GITF members represent a broad cross-section of the geoscience community across Manitoba. The Task Force continues to welcome feedback from all individuals. The GITF has adopted the following objective as its mandate and purpose:

"To facilitate awareness of geoscience issues and to promote communication between professional geoscientists, professional engineers, related groups and the general public."

We meet about once a month to discuss issues that concern the professional registration of geoscientists. Our meetings typically include Dave Ennis and Sharon Sankar (APEGM), and Robert Mathews and Alan Bailes (CCPG). I would like to thank all the Geoscience Issues Task Force members and all who have been involved in the process of registering professional geoscientists. Special thanks are extended to Dave Ennis for his constant support of geoscience registration.

The Task Force has worked closely with the administration of APEGM to deal with issues such as mobility, CCPG, standards, fees, and academic issues. We continue to move forward in all regards. Industry surveys conducted by Task Force members have shown that there are still some barriers to overcome for some individuals in regard to professional registration. These surveys have been valuable in bringing to light some issues that still need to be addressed.

An aspect that will need to be addressed in the upcoming year is awareness. We need to move forward in increasing the awareness of geoscience, both at the APEGM level and in the general public. The first step in this regard will probably be more submissions to the Keystone Professional. I urge all geoscientists to make submissions to the Keystone Professional to raise the level of awareness of the profession.

We look forward to another successful year and to serving our role within APEGM. ■

Emerging Issues Committee

R.L. Ludwick, Chair

Members

- A.S. Chadha
- D.H. Grant (Vice-Chair)
- R.J. Hamlin
- G.M. Ostry
- M. Paryniuk
- E.A. Speers
- D.R. Strang
- J.B. Thorsteinsson
- J.R. Gunning
(Recording Secretary)



The purpose of the Emerging Issues Committee is to facilitate awareness within the Council, through the Executive Director, of emerging issues that are germane to the practices of engineering and geoscience or that could impact the mandate of the Association.

The Committee met eight times during the past year.

Much of the Committee's work is ongoing in nature. As well, we review specific topics as they come to the forefront of our responsibility. Currently, the main topics of interest being addressed by the Committee are: genetic engineering, under-investment in infrastructure, biosolids processing, and technology to reduce greenhouse gases.

During the year it was agreed that the Committee should have ongoing contact with the

Professional Development Committee in order to keep both groups apprised of developments in the respective committees and to facilitate any possible joint opportunities for the membership of APEGM. David Grant agreed to be the liaison between the two committees.

The use of the electronic seal is an ongoing issue. Doug Strang is working with an ad hoc group to determine what is required to address this issue. Perhaps a general forum, format as yet to be determined, will be arranged for sometime within the next year.

A new member was added to the Committee's membership to represent the geological perspective on APEGM activities. Gary Ostry agreed to join the group and represent this interest as well as fully participate in all other business of the Committee.

Amar Chadha and the Manitoba Infrastructure Council reviewed the scope of partnering a forum on "Safety and Health Issues Arising from Deteriorating Infrastructure and Under Funding". It was indicated that this would be welcomed in partnership with APEGM. Terms of reference for such a forum are being put together for review and consideration in early 2004.

At this point, it is necessary to thank all the Committee members for their continued interest in, and support of, the issues addressed by the Committee. Of special note is the ongoing support of Dave Ennis, who also keeps us on track, all APEGM staff that help us in many ways, and James Gunning, our relentless scribe who faithfully records our work. ■

Experience Review Committee

J.D. McInnis, Chair

Members

- J.A. Blatz
- C.R. Bouskill
- K.A. Dickson
- R.D. Howard
- D.S. Jayas
- L.J. Montufar
- H.N. Procyshyn
- R.A.S. Reichelt
- G. Schaub
- C.L. Stewart
- V.S. Walkes



The Experience Review Committee had another interesting year. Along with its regular work of reviewing files from 484 MIT members, for a total of 1038 progress reports, the Committee was hard at work looking at the registration program and trying to make it even better. The main challenge was how to ensure that MITs were committed to the mandatory enrolment requirement of the program, how to reward those who took this commitment seriously and how to deal with MITs who did not. The program is at a crossroads, and the ERC, along with the Council

and Administration, will need to resolve this issue.

The ERC gained one additional member this year - an electrical reviewer. The Committee members continued to work diligently in ensuring that MITs had satisfactorily completed the requirements of the program and were capable of practicing engineering to a professional standard.

This is my last report as Chair of the ERC. After six years on the Committee, including two years as Chair, it is time for a change. Volunteer service is a rewarding experience and I would encourage anyone who is thinking about offering some of your time for a good cause to do so. Along with learning more about how an organization works, you get to meet a lot of wonderful people.

The Committee members worked extremely hard in making all of this happen, and I would like to congratulate them on a job well done and thank them for their exemplary volunteer effort. I would also like to thank our new Director of Admissions, Sharon Sankar, P.Eng., Dave Ennis, P.Eng., and Lorraine Dupas for all of their assistance during the past year. Without the professional and committed efforts of all these individuals, the Committee would not have been able to achieve the results it did. ■

COMMITTEE REPORTS

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Salary Research Committee

E.G. Parker, Chair

Members

W. Czornyj
J.W.P. Lengyel
I.R. Mikawoz
A.M. Mian
S. Quigley
W.B. Todd
Statistical Analysis:
Scott Young



To satisfy our objective of providing salary information for use by the public and Association members, the Salary Research Committee conducted its annual employee salary survey this spring. The results are posted at the APEGM web site at www.apegm.mb.ca.

This year we successfully introduced a web-based survey format. The objective was to simplify the survey for members, reduce the paper handling and keying of information, and to improve the coding of responses to questions. The format also allowed some improvements in the flow of the questions. Beyond eliminating our substantial postage costs and paper usage, the survey was designed to encourage a greater response rate from our members.

Based on the comments received, the change to the web-based format was well received. The response rate rose to 31% compared to the 25% average for the last few years. This is a significant increase in participation. The new format also saw a doubling in the number of members who

provided comments on the survey and other issues. The survey format performed well for most members. There are some design improvements that have been identified in the comments and these will be used to redo the web approach for next year. Principally, we will focus on making it easier to review the responses, make changes in the review stage of the questionnaire, and return to the survey if the session is interrupted. There were also many excellent suggestions for improvement in the questions and in providing supporting information on the classification guide.

The response rate of 31% represents an excellent participation rate and provides a solid base for comparing membership differences by various categories. The participation rate increase was from all levels of engineers and geoscientists and the quality of the survey is reflected in the consistent salary curves that have been developed over the last few years. The members reported an average increase of 4.3% in base salary for the year ending December 31, 2002. This compares to the average base salary increase of 4.6% reported for the year ending December 31, 2001. The best fit curve for salary versus points has also maintained the same slope for the last few years, reflecting consistent salary gains for members at the various levels of responsibility. The data also show that the salary for Manitoba-based members is consistently 20% to 30% lower than salaries in Ontario, Alberta and BC at each level of responsibility.

Thank you to the members who completed our survey and to those who provided their comments. Finally, many thanks go to the Committee members for their efforts this year and to William Boyce and Joan McKinley for their continued support. ■

Legislation Committee

D.N. Spangelo, Chair

Members

W.M. Burbidge
D.G. Ford
R.M. Gordon
R.A. Johnson
S.A. Mailey
J.E. Reimer
P.V. Remillard



The purpose of the Legislation Committee is to continuously evaluate the purpose, consistency, and clarity of *The Engineering and Geoscientific Professions Act*, the By-Laws, and the Code of Ethics. As the legislative environment around us evolves, we have to continuously update our own legislation and related documents. The Committee is responsible to Council through the Executive Director.

Over the last year, the Legislation Committee has been busy reviewing our Act and By-Laws to

address a number of ongoing issues. We have also been reviewing potential revisions to the Association of Manitoba Land Surveyors (AMLS) Act as well as a proposed act from the Manitoba Association of Landscape Architects (MALA).

A number of By-Law amendments related to Council's adoption of Policy Governance and other issues were presented to the membership at the 2002 Annual General Meeting. These were later accepted by mail-in ballot. Amendments to the By-Laws included:

- practicing members will be required, as part of their dues payment, to declare if they have the knowledge, skills, and level of awareness to provide their professional services;
- simplified requirements for signing of documents in regards to Certificates of Authorization;
- enhancement of deferred dues options;
- provision for the requirements for writing the Professional Practice Exam by some re-registrants to be waived, depending on special circumstances; and

Communications Committee

J. Blatz, Chair

Members

M.E. Baril
J.L. Biczok
P.H. Boge
V.L. Dutton
E.P. Hancox
D.H. Inglis
A.N. Kempan
J.W.P. Lengyel
A.A. Poulin
S.B. Williamson



The Communications Committee is responsible for the publication of the *Keystone Professional*. The Committee reviews and edits articles from the membership and seeks articles of interest from other Associations through their publications. This past year was relatively routine business for the Committee with few surprises. The Committee met ten times during the past year over which time five issues of the *Keystone Professional* were published.

I am pleased to report that in my first year as Chair, the Committee gained three new members and lost none. The new members are John Biczok, P.Geo., Paul Boge, P.Eng., and Evan Hancox, EIT. Apart from the regular business of reviewing and editing the *Keystone Professional*, the Committee reviewed an informal proposal from a possible new publisher to bolster the image and format of the publication. At this point no formal proposals have been presented to the Committee, but there is an ongoing review of alternative styles for the publication. The flow of articles for the *Keystone Professional* was steady as usual. In the coming year, the Committee will be reviewing the balance of articles specific to each discipline in past issues to try and better balance the content of the *Keystone Professional* for all members. As always, we encourage submissions on topics of interest from all members including letters to the editor.

Overall it was a productive year for the Communications Committee and I would like to thank the Committee members for all their time and effort. I would also like to extend the Committee's appreciation to Lorraine Dupas and Deidre Norris for their endless efforts in supporting the Committee with the coordinating, editing and formatting of the *Keystone Professional*. ■

- numerous housekeeping issues

I would like to thank all Legislation Committee members, Dave Ennis and other APEGM staff for their contributions and efforts over the last year.

I hope as many members as possible continue to review our By-Law proposals and vote as they wish at the AGM and/or through the mail-in voting process! ■

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Safety Committee

F.A. Roberts, Chair

Members

- M.S. Anderson
- D.R. Beacham
- D.N. Burney
- D.E. Cross
- A.O. Dyregrov
- O.C.B. Edirmanasinghe
- M.J. Frye
- B.K. Horning
- G.M. McCaughey
- P.T. Sims
- R.D. Stark
- V.J. Tanner
- T.J. Van Dekerkhove
- J.V. Weiszmann



As professional engineers and geoscientists, we may from time to time reflect on our duty to fellow engineers and geoscientists and our duty to the public. While specific requirements in each of these relations are outlined in our Code of Ethics, the intent of the Safety Committee relates more to the spirit behind the code. The Committee hears concerns from members, and gathers expertise and recommendations from those who have a genuine concern for our province, the general public, and the profession, and want to “make a difference”. This information is shared with the membership, and recommendations are sent to industry groups, government, and individuals in an effort to correct or preempt practices that could result in unacceptable risks.

We are grateful for members who identify concerns to our Committee and often volunteer to present information. We have been able to broaden the perspective of the Committee with the addition of new members Tim Van Dekerkhove, P.Eng., of the City of Winnipeg, and Brent Horning, P.Eng., from Wardrop Engineering’s Geotechnical Department. We are pleased to see a return to the Committee of Grant McCaughey, P.Eng., now with the University of Manitoba.

The following are highlights of issues before the Safety Committee this past year:

Fabric Covered Buildings

The Committee has heard concerns from members relating to the possible misuse of fabric-covered buildings. These structures, typically constructed from steel or aluminum frames with vinyl or fabric covering, were once considered only for temporary use.

You may recall the 1997 bulletin issued by the Ontario Building Officials Association following the collapse of two such structures when snowfall did not shed from the structure in the manner claimed by the manufacturer. Changes to the National Building Code have added load case requirements that hopefully deal with loading issues.

The proliferation of these structures into applications where traditional wood, concrete, or steel

structures have been used has presented conflicts with fire separation requirements, both to adjacent properties and buildings.

While the structures provide a new, inexpensive alternative, designers must take into account that all code requirements must be met. Limiting distances for the wall systems, which typically cannot be fire rated, should be examined when considering the placement of these structures.

Farm Building Code—Agricultural/Industrial Sites

Yes, this issue continues in the discussions of the Safety Committee.

The disparity in the lack of regulations for large agricultural-based industrial complexes remains an area of major concern for the loss of persons, property, and livestock. Presently Manitoba does not adopt the Farm Building Code, and large complexes located on agricultural property are not subject to the scrutiny of the permit and plan examination process. As a result, there are cases where design and construction have been seriously lacking in terms of structural, fire safety, and electrical safety. Often damp, corrosive environments are present that cause rapid deterioration of these installations.

During this past year, the Association has received a favourable response from the Minister of Labour towards preparation of a discussion paper and the establishment of a task force of industry stakeholders and professionals. Should this materialize, it would be an important first step to ensure safe designs no matter where a building is constructed. However, there will be many steps in the process before we can eventually see this type of regulation.

For the present time, APEGM members must be aware that the lack of Code enforcement on agricultural land does not excuse a lack of sound design or construction. There are indications that many of these installations are constructed without the use of professional engineers in the design process. However, there are also indications that members of our association have advised owners that various fire safety systems or structural systems do not have to meet code requirements because the buildings are located on a farm. It may be true that building officials will not be present to examine the facility for conformance. However, design codes represent for our members a minimum standard of performance that must be observed whether or not someone is looking over their shoulders to verify compliance.

Members are reminded that the intent of codes is to ensure safety of life and property, and that they have a responsibility to advocate for these principles wherever they are practicing.

Bulk Fuel Storage Facilities

The Committee has begun looking at the regulations for the design and installation of bulk fuel facilities. We find that there may be no requirements for the involvement of design professionals on these facilities, and current regulations may even exclude engineers from their design. This

exclusion appears to come from the requirement that designers must be “certified installers”, and the certification program relates mainly to years of experience in the actual construction, typically performed by various trades.

From preliminary information, there appears to be a problem where the required design exper-

Continued on page 18

Sports & Social Committee

M.E. Baril, Chair

Members

- C.J. Berkis, *Vice Chair*
- B.R. Coreau, *Scribe*
- G.T. Gibbings
- J.F. Lavergne
- B.C. Piniuta
- M.C. Rowbotham



The purpose of the Sports and Social Committee is to organize and conduct sporting and social events as venues for member interaction and networking. The Committee helps to promote pride in, and a sense of belonging to, the profession. This past year the Committee organized the annual APEGM Spring Golf Tournament at Pine Ridge Golf Club on June 11 using a best ball format. The tournament was once again a resounding success, as we had our 144 golfers, plus a few extras. Thank you to all the golfers, and the organizations that sponsored holes and donated prizes. Your continuing support is greatly appreciated.

This fall, the Sports & Social Committee teamed up with Sue Kennedy and John Shewchuk, P.Eng. (ret), from the University of Manitoba and Dave Ennis, P.Eng., of APEGM to organize the inaugural Making Links Engineering Classic golf tournament in support of the new Engineering and Information Technology Complex at the U of M. It was to be held September 9th, but due to logistical problems arising from the late start of its organizing, it was postponed until next year. We are committed to putting on a first-class tournament, and would ask that you keep the tournament in mind this fall and winter when it comes time to budget for tournaments and fundraisers for 2004.

The Chair would like to thank all Committee members, and would like to welcome Brent Piniuta and Geoff Gibbings. Special thanks go to the APEGM staff members who handle the entries, prizes, and inquiries related to the golf tournament, especially Jenny Borecky who serves on the frontline for golf-related issues.

Please feel free to contact, through the APEGM office, any member of the Committee to voice questions/concerns about the current activities of your Sports Committee, and/or to discuss possible new activities. ■

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Registration Committee

K.J.T. Kjartanson, Chair

Members

D.A. Brown
D.P. Dudek
T.W. Gouldsbrough
H. Graumann
A.J. Poetker
C.S. Roberts
(Vice-Chair)
T. Sellen
(Lay Member)



The primary responsibility of the Registration Committee is to register members of the Association. This duty is carried out within the policies of Council as laid down in the Association's Manual of Admissions. The Committee reviews the credentials of candidates and relies on recommendations from the Academic Review Committee, the Experience Review Committee, and Association staff in making decisions.

Additional responsibilities of the Committee include the consideration of appeals against decisions of the other Committees and the staff, and the review of registration-related issues and provision of recommendations respecting the same to the Admissions Board, the Executive Director, and the Council.

The Registration Committee was, once again, very busy during 2002-2003. In this period, the Committee held 12 regular meetings and heard one appeal. Insofar as statistics are concerned, during this past year: 165 EITs/GITs were enrolled, 104 members were registered under the Mobility Agreement, six members (geoscientists) were registered by transfer (none of these was a dual registration), 100 members (including three geoscientists) were registered for the first time, 28 temporary licenses were issued for practice, 21 reinstatements were approved, no reversions (from retired membership) were approved, and 30 Academic Review Committee recommendations were verified. Three applications were reviewed and not approved by the Committee for a variety of reasons.

The appeal heard was against a decision of the Experience Review Committee. The appeal was denied. In addition, the Council heard one appeal against the decision of the Registration Committee respecting the appeal against the Experience Review Committee decision. The Council denied the appeal.

During the past year, the Committee has continued to work closely with the Admissions Board, the Academic Review Committee, the Experience Review Committee, the staff, and the Council to ensure that registration procedures are appropriate. Where necessary, recommendations have been made to the Admissions Board, the Executive Director or the Council respecting proposed changes to the Manual of Admissions and/or the Committee Terms of Reference. In this regard, the Committee spent considerable time reviewing the issues of temporary licensure of

applicants and the reinstatement of former members back into the Association. Recommendations for changes to the Manual of Admissions respecting these two issues have been made for consideration.

In addition to its baseline work, the Registration Committee also reviewed and made recommendations respecting several other registration-related issues. These issues included the APEC register, potential sanctions for delinquent supervisors and referees, the NAFTA Mutual Recognition Agreement, the proposed National Guideline on EIT Programs, the Manitoba Initiative on Immigrant Qualifications, the requirement for Canadian experience for applicants, the academic qualification of geology students, and the qualifications for GITs. Various other miscellaneous tasks were also undertaken.

The Committee membership has changed over the past year. Don Osman, the Vice-Chair, left the Committee because of a move to British Columbia. Arnold Permut, the Liaison Council-

lor, left because of the new Association governance policy. Don and Arnold spent considerable time serving the profession on the Committee and have been missed. Thanks Don and Arnold! Alf Poetker was welcomed back to the Committee. Helmut Graumann has recently joined the Committee as a new member. Carol Roberts was elected as the new Vice-Chair of the Committee. The Chair has appreciated the ongoing enthusiasm and dedication of all the Committee members over the past year. In the way of staff, Shirley Matile, P.Eng., has taken a leave of absence from her job as Director of Admissions and Jennifer Reykdal left the Association for a new job. Thanks for your hard work, Shirley and Jennifer, and best of luck! Sharon Sankar, P.Eng., has been appointed as Director of Admissions and Deidre Norris has taken over as Registration Coordinator. The Committee wishes to recognize and thank Sharon and Deidre as well as Dave Ennis, P.Eng., for their ongoing support and assistance, which has, once again, proven to be invaluable. ■

Awards Committee

J.M. Symonds, Chair

Members

I. Djatiutomo
J.R.C. Doering
J. Graham
D.H. Grant
B.W. Gulay
E.E. Lach
L.S.W. Larkin
G.A. Morris
J.R. Pickell
N.B. Ulyatt
P. Washchshyn



The Awards Committee is responsible for providing recommendations to Council for recipients of APEGM awards, and for providing nominees for the CCPE Awards. The Association of Professional Engineers and Geoscientists of the Province of Manitoba's (APEGM) Annual General Meeting Awards Dinner was held on October 18, 2002. At that event, three Life Memberships and one Outstanding Service Award were presented. The Life Memberships went to Andy Baracos, Ernie Bridges, and Bud Christie, and the Service Award went to Peter Washchshyn.

An Evening of Recognition was held on March 4, 2003. There were four awards presented at this event. The Merit Award was presented to Fred Nicholson, Executive Director of the Mechanical Contractors Association of Manitoba, for his outstanding contributions in the area of codes and standards by serving on many Association, provincial, and national regulatory groups. The Early Achievement Award was given to W.R. (Rick) Haldane-Wilson for significant contributions as an engineer, to society and the engineering profession. The EIT/GIT Professional-in-Training Award was given to Nelson Ferreira for his outstanding record of ser-

vice to the engineering profession through his participation in technical societies, conferences, and professional development activities. The final award was the Certificate of Engineering Achievement that went to the City of Brandon and Earth Tech Canada for the City of Brandon – Maple Leaf Meats Wastewater Treatment Facility.

The above recipients are very deserving of their awards for their considerable contribution to Manitoba society and the APEGM. The public's image of the engineers and geoscientists of Manitoba and Canada has been greatly enhanced by these individuals. The Association will continue to recognize outstanding contributions to the profession and community later this year in conjunction with the 2003 Annual General Meeting. While the recipients have been named, they have not gone through the entire review process and, therefore, it would be premature to announce the winners. The Awards Committee continues to have a very good slate of candidates for these awards but we are always looking for nominations from the membership. We are looking for your input to this process to ensure all deserving candidates are given consideration. Please contribute to the process by nominating a fellow professional or nonprofessional for any of the appropriate awards that the APEGM or CCPE has to recognize the efforts and achievements of its members. It is important the membership continue to contribute to the process.

I would like to thank Joan McKinley and all the Awards Committee members for their significant efforts over the last year. In particular, I would like to thank Kevin Stewart, Communications Specialist for the University of Manitoba, Faculty of Engineering. Kevin put in an outstanding effort to film and produce the video interviews that we have enjoyed at the Awards ceremonies. He has moved to a new job on campus and is no longer available to help us. Thanks, Kevin, for your help. It has been a pleasure working with all of you. ■

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Women's Action Committee

B.A.K. Danielson, Chair

Members

- R.A. Dyck
- C. Flather
- P.M. Kreitz
- L.E. McFarlane
- J.D. St. Laurent
- E.S. Swatek



The Women's Action Committee shrunk over the past year as a few members left to pursue other interests. Meghan O'Laughlin and Carolyn Geddert have both been with the committee for many years and I, personally, am grateful for all of their contributions. Lisa Lazarek, although only with us for the past year, brought the grad student/EIT perspective – congratulations and good luck, Lisa, as you continue your studies at Oxford University in England. We are currently seeking new members for our committee; if you're interested, please get in touch with

us through the APEGM office.

Our networking meeting initiative is well-established and we hope to continue on this year with three more events in fall, winter, and spring. Last September, Steve Lukacs from Qunara provided a well-attended presentation about internet security. In February, a sizeable group of us met at the Golf Dome to learn about the "physics of golf" then had some fun on the driving range. In May, we welcomed Dr. Anne Parker from the Engineering Faculty and heard about research she is doing into "Gender and Collaboration in the Engineering Context". This research group studied team-based projects in the engineering classroom and their implications for the workplace. Watch the APEGM website for details of events during the upcoming year. If you'd like to make a presentation or have any ideas for our networking events, please contact any of the Committee members via the APEGM office.

At the national level, we are still a Board member of CCWEST, the Canadian Coalition of Women in Engineering, Science, and Technology. Here are a few brief highlights of the activities from that organization. In conjunction with Dow Chemical, CCWEST has established a scholarship fund: recipients this past year were from the Department of Chemistry at the University of

Calgary (for western Canada) and from the Department of Chemical Engineering at the University of Western Ontario (for eastern Canada). The next CCWEST conference, "Let's Get Growing", will be held June 10-13, 2004, at Brock University in St. Catharines, Ontario. A link will be available from the APEGM website once the conference website is active. CCWEST has recently received a grant from Status of Women Canada to study Women in Science, Engineering, Trades, and Technology. The first phase of the study will include engaging organizations that share a common interest of women in these areas, identification and collection of information and best practices, the development of recommendations and an action plan, and communication of the recommendations.

This year marks the end of a very interesting, educational, and, most of all, enjoyable term as Chair of the Women's Action Committee for me. I wish Lesley McFarlane, who will take over as Chair, and the rest of the Committee all the best in the pursuit to bring more women into the world of science and engineering and keep them there!! Thanks, also, to the APEGM staff for your support of our events and activities during the past year (we couldn't have done them without you!). ■

Professional Development Committee

W.T. Jackson, Chair

Members

- S. Anand
- R.J. Bruce
- S. Kass
- G.S. Lodha
- D.B. McKibbin,
Past Chair, report author
- B.W. Purdy
- T.S. Rumbal
- D.R. Swatek
- H.M. Turanli
- D. Grant
(Liaison Member, Emerging Issues Committee)
- P. Janzen
(Liaison Member, Environment and Sustainable Development Committee)
- B. Danielson
(Liaison Member, Women's Action Committee)



The Committee experienced a few changes in membership over the past year. We were pleased to welcome Said Kass to the Committee in December 2002. We also recruited three liaison members from other committees to assist us in program coordination and delivery to maximize program opportunities for the membership. Thank you for your time and effort.

Vern Dutton resigned in July 2003, after 15 years on the Committee. We wish him well and extend our sincere thanks.

In addition to incoming and outgoing members, Wally Jackson, who has served on the

Committee for six years, replaced Dave McKibbin as Chair of the Committee in June 2003.

During the past year, the PD Committee continued its traditional seminar series, which mainly consisted of one-hour sessions to introduce or update members on a wide variety of technical, business, and general knowledge topics. Committee members also participated in the planning of the well-attended PD day at the 2002 AGM.

The following sessions were presented during the last 12 months:

- **The Manitoba Land Initiatives**, Kip Tyler, Policy & Program Manager, and Al Dakin, Land Information Coordinator, Information Technology Services Branch, Manitoba Conservation.
- **Construction Surety Bonds**, John Madison, Contractors' Services Division, AON Reed Stenhouse.
- **Hollow Core Construction**, David Donald, EIT, Con-Force Structures Limited, Heidi Bredenholler-Prasad, EIT, Lafarge Construction Materials, and Art Macaw, P.Eng., Con-Force Structures Limited, on behalf of the Canadian Precast/Prestressed Concrete Institute.
- **Thermal Generation at Manitoba Hydro**, Randy Raban, P.Eng., Division Manager, Engineering Services Division, Power Supply, Manitoba Hydro.
- **Kyoto Update**, Ed Wojczynski, Division Manager, Power Planning and Development, Manitoba Hydro.

- **The Scientific Research and Experimental Development Program: Where Technology and Tax Meet**, Don Himbeault, Ph.D., P.Eng., Canada Customs and Revenue Agency.
 - **ISO 9001:2000 – A Tool for Organizational and Personal Improvement**, Carl Anderson, P.Eng., of Prosolve Consulting Ltd.
 - **Winnipeg's Water Treatment Project**, Duane E. Griffin, P.Eng., City of Winnipeg.
 - **Liability Surrounding Municipal Water Supplies**, Bernice Bowley, Filmore Riley.
 - **Health and Safety in Construction and Design – Amendment to the Act**, Jeff Paar, Assistant Deputy Minister of Labour, Province of Manitoba.
 - **Potential Amendments to the Manitoba Environment Act**, Larry Strachan, P.Eng., Director, Environmental Approvals Branch, Manitoba Conservation.
 - **Insurance and Municipal Liability**, Ken Fingler, CIP, CRM, Risk Manager, HED Insurance Group.
 - **Sharpening Your Written Communication Skills (third annual)**, two day seminar, Ron Blicq, Senior Consultant, RGI International, Canada and Lisa Moretto, Senior Consultant, RGI International, USA.
 - **Provencher Bridge Site Tour – Final Stages**, hosted by Wardrop Engineering.
- Sincere thanks for all staff assistance and particularly to assigned staff person William Boyce.
- Seminar suggestions are always welcome. For assistance in managing your personal PD program, please refer to the APEGM Professional Development Guideline. ■

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Investigation Committee

I.H. McKay, Chair

Members

A.E. Ball
M.G. Britton
D.E. Cross
M.B. Gibson
(*Lay Representative*)
T.H. Gillman
D.G. Hodgkinson
(*Leave of Absence*)
R.P. Hoemsen
S.I. Kulbaski
E.I. Lexier
W.M.A. McDonald
J.B. Smith
R.C. Somerville
J.A. Terris
S.L. Ursel



Over the last year, the Committee held nine meetings. In addition, numerous sub-committee meetings were held to review various complaints, concerns, and questions. A total of 24 files were reviewed, of which 14 were carried over from the previous year, seven were new complaints and concerns, and three were questions of professional conduct received from a few members.

Of these files, seven are ongoing, of which one is a file previously appealed to Council under Section 36(1) of *the Act*. One file, previously appealed, was dismissed on appeal by Council. Six files were dismissed, of which one was appealed to the Council under Section 36(1) of *the Act*. Two complaints were withdrawn, both of which were essentially employment-related. One appeal was withdrawn.

The complaints that were not dismissed or withdrawn were dealt with under Section 35(1) of *the Act* that provides that with the written consent of the investigated person, the Committee can formulate a charge, register a conviction and impose any penalty that the Discipline Committee could have imposed. Under that process, one member was fined, one member resigned, and two members were each issued a reprimand. The Committee commenced the monitoring of the inspection of one member's professional practice, at the member's expense, the member was required to pass the Professional Practice Exam, and a condition was imposed on his practice. No complaints were referred to the Discipline Committee.

Of the complaints/questions considered:

- twelve resulted from situations where an engineer was concerned with the practice or conduct of another member;
- ten resulted from concerns of various agencies and individuals on the conduct of engineers, including two which involved design and/or inspection of both single and multiple family residential properties;
- three were questions relating to professional conduct.

The Committee is continuing to explore the mediation process, with the thought that in some cases this process might be more expedient than a formal investigation, especially in disputes between members. The Committee is also developing guidelines for use when it is deemed that a member's professional practice should be subject to inspection.

The Committee developed guidelines for the publication of names of members whose conduct is found to constitute unskilled practice, professional misconduct, or both, and has undertaken a review of its practices with a view to developing an operations manual for its activities.

Support staff, as in the past, has provided enthusiastic and dedicated service in numerous files before, during, and after normal working hours. The assistance of Dave Ennis, Lorraine Dupas, and Charlie Bouskill allowed the Committee to function in an effective, efficient manner. ■

The Investigation Committee is involved in the investigation of complaints and concerns received from both the public and members of the Association, as well as the consideration of questions on professional conduct received from Association members. The actions of the Committee are conducted under the authority of Part 9 of *The Engineering and Geoscientific Professions Act* and are supplemented by the Association's By-Law 15 and the Code of Ethics for the Practice of Professional Engineering & Professional Geoscience.

Public Awareness Committee

H.J. Roche, Chair

Members

R.H. Bernhardt
J.S. Betke
T.B. Bowden
W.T. Jackson
M.S.A. Qureshi
J.A. Rooney
M.J. Samuda Poitras

This year has been very productive, with enhancements to previous years' activities as well as some new initiatives. A smooth chair transition served to maintain the momentum for ongoing projects and allowed the Committee to make significant contributions to improving the image and visibility of the engineering and geoscience professions in Manitoba.

The new APEGM brochure was produced in March 2003, with copies available from the APEGM office. This initial brochure is career-oriented and was developed primarily to promote the profession in schools. The Committee will be reviewing the idea of additional brochures that are focused on promoting the profession to the business community.

A new APEGM display unit has been acquired and is available for events. The unit is

kept at the APEGM office and can be booked through the office administrator.

National Engineering Week (NEW) was an overall success thanks to the efforts of Brian Stimpson's NEW Subcommittee, the Web-Page Subcommittee, the Spaghetti Bridge group, and the excellent media coverage of the celebrity competition. St. Vital mall is a great venue and the plan is to re-evaluate the layout for next year. Geoscience was well-represented at the event, and there was discussion about adding additional panels for the display and printing another brochure focusing on geoscientists for 2004.

The 2003 Manitoba Schools Science Symposium (MSSS) had the theme, "Engineering... Building Tomorrow". There were 473 entrants in this year's MSSS, with 83 of those in the Engineering and Technology category. The Committee was proud to be present when one of APEGM's own, Manitoba Industry Minister Mihychuk, proclaimed a Science Mentor Day. The Association provided 12 judges for the Friday night pre-screening and Saturday judging sessions. Councillor Permut spoke at Friday's dinner, while Councillor Hutchinson represented the APEGM at the awards ceremony on Sunday.

Jeff Boyko and Michelle Rheault left the Committee to pursue other interests. James Betke joined the Committee in September 2002, and has been a strong contributor as well as the coordinator for the display.

Our thanks go to all of the Association mem-

bers who volunteer and support our efforts. We continue to develop and define the role of the Public Awareness Committee within Council's Policy Governance Model. The Committee also thanks Dave Ennis, William Boyce, and the APEGM staff for their guidance and support. ■

Prism Engineering Ltd.

is a Vancouver-based consulting firm that has specialized in energy management since 1990. We are currently seeking to fill the following positions:

- Energy Management Engineer
- Senior Mechanical Engineer

For more details, including responsibilities and qualifications, please visit our website at

www.prismengineering.com/employment/



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Practice Standards Committee

F.L. Nicholson, Chair

Members

- M.S. Anderson
- K.G. Bolton
- A.G. Degner
- I.R. Dewer
- E. Febers
- M.J. Frye
- J.G. Hayles
- E.I. Lexier
- R.N. McPhail
- D.G. Mulder
- R.H. Payne
- B.J. Rossen
- T.L. Stratton
- J.A. Thomson
- E. Weiszmann



Over the past year, draft professional practice guidelines were made available for review and comment by our membership, prior to being finalized. A few suggestions were received; however, feedback was relatively limited. Hopefully, this is an indicator that the Committee has developed practice guidelines that will serve the needs of our members.

The Committee met once in May of 2003 to

review its progress and approve the final draft of the *Guide to the Engagement of a Consulting Professional Engineer*. A special joint committee of APEGM and CEM developed the document.

Three practice guidelines have been finalized and are available on the APEGM web site: *Building Commissioning Guideline, Duty to Report*, and the *Guide to the Engagement of a Consulting Professional Engineer*.

The remaining guidelines are in the final editing stage and should be available in the near future. These include:

- *Technical Review of Engineering and Geoscientific Work by Others*
- *Guidelines for the Development of Mechanical and Electrical Systems in Buildings*
- *General Review of Construction*

It was concluded that the task of the Committee had been substantially accomplished and that the Committee membership should be reconstituted to address future needs for practice guidelines.

The Chair would like to express his gratitude to the members of the Committee for their hard work and dedication. Furthermore, the support provided by Dave Ennis and his staff was invaluable in helping the Committee complete its mandate. Their assistance is very much appreciated. ■

Environment and Sustainable Development Committee

J.D. Ewing, Chair

Members

- C.E. Anderson
- P. Janzen
- C.W. Jones
- G. Rempel
- L.J. Van Dusen

The ESDC held four committee meetings since the last report, and welcomed new members Chuck Jones and APEGM staff support William Boyce. We also thank outgoing Committee members Don Osman, Daryl McCartney, and Rick Lemoine, for their contributions to the Committee over the past several years.

This year, the ESDC continued to monitor environmental and sustainable development issues to fulfill its purpose "to develop Association positions on Environment and Sustainable Development issues".

Jean Van Dusen assumed the role as member of the Canadian Council of Professional Engineers (CCPE) Environment Committee, and regularly reported to the ESDC on the CCPE Environment Committee activities.

Paul Janzen joined the Professional Development Committee as a representative of the ESDC to facilitate communications.

Jean Van Dusen attended the CCPE workshop, "Adapting to Climate Change: The Role of

Canada's Engineers". A draft action plan is being developed and will be the subject of review this fall. The Federal Government also produced a draft document, "From Source to Tap", and CCPE will be responding on behalf of the member associations.

There are pending changes to the *Environment Act* in Manitoba. The Committee initiated a presentation by Larry Strachan, Director of Environmental Approvals, on the subject of contemplated changes to the *Environment Act*.

The Committee continues to monitor the activities of CCHREI, the Canadian Council for Human Resources in the Environment Industry. CCHREI continues to seek to expand the "registration" of environmental practitioners. It is currently developing Canadian National Occupational Standards (NOS) for "environmental employment".

The Committee also continues to examine topics of relevance and interest to our industry, and is currently addressing the road salt issue and alternative energy source issues. ■

Thompson Chapter Report

K.K. Derksen, Chair

Members of the Executive:

- I.T. Blakley
- A. Dune
- J.C. Hilchey
- M.A. Johnson
- T.R. Nyabeze
- H.R. Rudolf
- P.H. Yamada

A number of professional development activities were hosted this past year. Some of the events were: a demonstration of the new CT scan's capabilities at the Thompson General Hospital, a practical demonstration and lecture on the cold weather testing of Land Rover SUV's by several British engineers, and exploration developments in the Thompson Nickel Belt. We also heard Neil Ferguson of Acres give a presentation on an Iranian Hydro Project.

Many of our members were involved in judging science fair projects, which is always a large event in Thompson. This year, one of Thompson's science fair contestants, Claire Pritchard, went on to win the top prize in the National Science Fair competition, held this past May in Calgary. Her project studied driver impairment and cell phone use. While there were more complex projects and other projects on the same general topic, judges said it was her experimental method and design that was most impressive (sounds like a future engineer). One interesting result from her study showed a significant number of people tested had long lapses (up to 2 seconds) in their reaction time while talking on the cell phone. We offer hearty congratulations to her, and of course claim her as one of Thompson's own.

Other members were involved in Women in Science and Engineering (WISE), Career Days at the high school, and of course the annual Spaghetti Bridge Competition. Unfortunately the Spaghetti Bridge coincided with Science Fair activities, and bridge busting was down this year (lesson learned for next year). We tested a new semi-automated loading device using spheres from a steel ball mill with mixed results – there is still some opportunity for fine tuning next year's model. ■

Student Reminder

Attention All Student Members

Please remember that your student membership expires September 30, 2003. A renewal notice will be sent to you in early September. If you do not wish to renew your student membership at that time, please contact the office. Student members who do not renew will be required to re-write the Professional Practice Test when enrolling as a member-in-training. ■

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

Pembina Chapter Report

R.A. LeGall, Chair

Members

N.G. Gropp
R.M. Klassen
S. Koeuth
W.J.C. Manning
R.G. Vanderwees

This has been a positive year for rebuilding the Pembina Chapter of APEGM. The engineers and MITs in our area are very mobile and it seems that every year we have vacant positions on the chapter executive due to transfers or moves. This year was no exception, but we still managed to fill the positions and have a very productive year.

The Chapter sponsored a very informative evening presentation on the Six Sigma approach used at 3M. We also hosted a lunch meeting where Lean Manufacturing Consultant Don Kevill presented the basics of Lean and its effects on technical personnel within a manufacturing operation.

Our Chapter had a booth at the Morden Career Fair at the Morden Recreation Centre. Ten members of the Chapter took turns staffing the booth where we had the opportunity to talk with high school students about a career in engineering. We were able to hand out information from the APEGM and the University of Manitoba and talk with many interested students. Our Chapter wishes to thank Susan Crawford Young for the work she did in coordinating and collecting information for this event.

Our annual golf tournament at Morden's Minnewasta Golf Club in early June was our last event before the summer break.

We look forward to another productive year beginning in September. ■

Westman Chapter Report

S.A.D. McBride, Chair

Members

K.D. Croteau
D.G. Ford
J.R. Funk
G.A.M. Horeczy
K.K. Kotyk (*Secretary*)
D.G. McKibbin
L. Turabian
T.K.M. Veitch (*Treasurer*)
J.H. Vidal

The Westman Chapter continues to provide support to members in the southwestern corner of the province. The newly-adopted mandate of increased support to MITs has driven the activities of the executive.

MITs were able to participate in the Spaghetti Bridge Building Contest held during the Brandon Career Symposium in March. They assisted high

school students with everything from the construction and testing of bridges to destruction to determine the highest strength-to-weight ratio. A total of four winners were awarded prizes: first and second place in the "on-site build" and first and second place in the "pre-build" categories. Prizes were graciously donated and the Chapter extends a heartfelt thank you for that. The U of M Engineering Department shared their booth at the Career Symposium for the contest, and it was unanimously agreed that greater attendance was achieved by doing this. The volunteers and organizers of the event enjoyed wine and cheese following the last day of the Career Symposium as a thank you for their efforts.

Professional development opportunities continue with luncheon meetings and keynote speakers. The Chapter welcomes new additions to the executive in any capacity at any time of the year. For more information on how to become involved, contact Stacy McBride at 748-2227 or at smcbride@gov.mb.ca

A very large thank you goes to the executive members for their dedication and efforts. ■

Safety Committee Report

Continued from page 13

tion is lacking on projects that are hazardous from the standpoint of flammability and explosion, as well as potential environmental damage.

The Committee is looking to investigate this issue further and solicits the involvement of members who may have specific knowledge or experience relating to these installations.

Safety Issues

The Safety Committee requests that members who become aware of safety issues bring them to

the attention of the Committee by way of the Chairman or Registrar. Matters will be dealt with in confidence where requested.

The Committee

I would like to thank all the members of the Committee for their generous support in attending meetings and investigating issues on subcommittees. They have given generously of time and expertise in their commitment to the profession.

On behalf of the Safety Committee I would like to thank Dave Ennis and the APEGM staff for their continuing support of the work of this Committee. ■

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

Gordon Sterling New President of CCPE

CCPE Press Release

Mr. G. Gordon M. Sterling, P.Eng., of Toronto has assumed the office of President of the Canadian Council of Professional Engineers (CCPE) for 2003-2004.

A member of Professional Engineers Ontario (PEO), he has been an active participant on PEO's governing council and numerous committees for over 25 years. He was President of PEO in 2001-2002. Mr. Sterling joined CCPE's Board of Directors in 2001 and was chosen President-elect the following year.

Professionally, Mr. Sterling enjoyed a successful career in pro-

ject management, building design, and facilities management with Bell Canada. He also served as chairman of The Office Planners and Users Group, which conducts international conferences on interior office design. Mr. Sterling, who holds a Bachelor of Applied Science degree from the University of Toronto, is currently a vice-president of the Canadian National Exhibition Association.

As President, Mr. Sterling plans to be a strong advocate for CCPE. He would like to raise an even greater awareness of the benefits of CCPE amongst the constituent members. He hopes to encourage

the spirit of cooperation and sharing that last year led to a landmark Discipline and Enforcement agreement between the provinces and territories and Draft EIT guidelines. He sees these initiatives as vital tools for the constituent members in regulating the Canadian engineering profession. Mr. Sterling also plans to nurture the close ties that have been developing between CCPE and the federal government.

He is joined on CCPE's Executive Committee by: President-elect Darrel Danyluk, P.Eng., from Alberta, Past-president Hollis Cole, P.Eng., from New Brunswick, Chantal Guay, ing., from Quebec,



G. Gordon M. Sterling, P.Eng.

and Bob Lorimer, P.Eng., from Yukon. ■

Council Report

Wednesday, June 18, 2003

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

APEGM TO CREATE CHARITABLE FOUNDATION

Council's June meeting was a stark contrast to those meetings held on nasty winter days. Sunshine and hot weather were the order of the day; the perfect time for APEGM's air conditioning to break down. Sitting through a long meeting without the benefit of air conditioning is uncomfortable enough at any time, but when you add the tang of hot roofing tar and frequent thumps and bangs from workers cavorting on the roof, you have a challenging atmosphere for a meeting of any length.

Council's first major agenda item revisited unfinished business from the April Council meeting. At that time, University of Manitoba fund raisers addressed Council and offered APEGM exclusive naming rights to a large room in the soon-to-be-constructed engineering complex. If Council accepted the U of M's offer, it meant that Council would consign APEGM to a significant financial commitment stretching over a number of years. In April, the Councillors accepted in general terms the U of M's offer; it was mainly a case of finding the ways and means. After several task group meetings in May, Council did what all good engineers and geoscientists do... they lightened the financial load by 30% and the U of M accepted their counter-offer.

Under the proposal APEGM pays yearly installments. To facilitate the transfer APEGM creates a foundation for channeling funds to the U of M. Council ratifies the payment every year and an escape clause allows APEGM to defer a payment in a bad year. Our geoscientists agreed to contribute a proportional amount based on membership numbers. At this point, President Ferchoff asked a very pertinent question... Was the membership on-side for this venture? Mr. Ennis conceded that eyebrows did go up when members heard about the proposed donation. Councillor Silk said they should all be prepared to explain why supporting the building fund was beneficial to the membership and how it fits with the "ends" of the organization.

By the time the Memorandum of Agreement with the Manitoba Association of Architects came up for discussion, the ambient air temperature had forced even the most formal Councillors to part with their suit jackets. Special guests Alf Poetker and Ken Drysdale, APEGM representatives on the Joint Board, arrived to educate Council about the agreement and to answer questions. They described the development of the Memorandum, the process, and the negotiations, and they praised the professional approach shown by MAA's representatives. Someone mentioned that earlier agreements hadn't worked out. Both guests thought the agreement was satisfactory, even though it didn't meet all of the conditions desired by the engineers.

Council passed a resolution ratifying the agreement; however, Mr. Drysdale thought that under the MAA's system of governance, their membership may need to approve it.

Council entered into a housekeeping phase where a number of monitoring reports, governance processes, and information items were discussed or reviewed. Mr. Peter Washchysyn, who is retiring as CCPE director, presented his final report after holding the position for three years. He said when he started as director he found CCPE was a divided organization. That has changed and now they have a united board working with an experienced CEO. Mr. Washchysyn will be replaced as CCPE director by Dr. Ron Britton.

Mr. Dave Ennis briefed Council on his recent meeting with several communications consultants. Mr. Ennis is responsible under Policy Governance for establishing an effective corporate communications and public relations strategy. This is a new endeavor for APEGM, and the meeting was meant to solicit proposals for a communications program. Four proposals were received; two showed promise.

Near the end of the meeting, the sweet sound of cool air flowing into the room revived the gathering. The air conditioning was operational, just in

Continued on page 21



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For further information, contact the CCPE National Scholarship Program

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Web site: <http://www.ccpe.ca>

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CANADIAN COUNCIL OF PROFESSIONAL ENGINEERS
CONSEIL CANADIEN DES INGÉNIEURS



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Engineers in the News

Len Bateman, P.Eng. Invested in the Order of Manitoba

On July 15, 2003, Leonard (Len) Bateman was one of eleven citizens who received the Order of Manitoba, which is the highest honour that Manitoba can bestow on one of its citizens.

Mr. Bateman is a graduate electrical engineer from the University of Manitoba. He also has a Masters Degree from the same university. He has post graduate qualifications in engineering and business administration. His career has involved service with both Winnipeg Hydro and Manitoba Hydro, and for the last twenty four and one-half years, he has been President of his own company, Bateman & Associates Ltd.

He has served in the utility industry in many capacities in engineering design, operation, planning, and management. He left Manitoba Hydro in January of 1979 as Chairman and Chief Executive Officer after six years in that position, during which time the utility completed the largest capital extension program in its history.

He has made many contributions to various professional bodies, including serving as President of the Manitoba Association of Professional Engineers and as President of The Canadian Electrical Association. He has been active in various international professional groups and served a six-year term as Chairman of the CIGRE Study Committee on HVDC transmission lines. When he was appointed to



Len Bateman, P.Eng.

chair this prestigious international committee, it was the first time that a Canadian had been elected to chair a committee of CIGRE. He has also served as President of the Canadian National Committee of CIGRE. During his six-year term as chair of the Canadian National Committee he invited the Administrative Council of CIGRE to meet in Winnipeg. It was their first meeting in North America.

He is a member of the Canadian National Committee of the World Energy Conference.

He has written a considerable number of papers for learned societies, including papers he has presented in London, England, Moscow, Russia, and New Delhi, India. He is still active in his firm and has chaired an international committee for Hydro Quebec during the construction of their DC transmission line from James Bay to Boston. The planning, design, and construction of the project covered a period of five years.

He has received the Association of Professional Engineers of Manitoba Merit Award, the Canadian Council of Professional Engineers' Gold Medal, and the Queen's Twenty-Fifth and Fiftieth Anniversary Medals, as well as numerous other awards, including an Honorary Life Membership in the Association of Professional Engineers and Geoscientists of the Province of Manitoba awarded in October 2000.

David Ford Receives Board of Governors Award for Excellence in Community Service

*Reprinted with the permission of
Brandon University*

Mr. David Ford, P.Eng., is the recipient of Brandon University's 2003 Award for Excellence in Community Service. The Award was presented at Convocation on May 31, 2003.

In addition to his role as an Instructional Associate in the Department of Chemistry at Brandon University, David has made significant contributions locally, provincially, and nationally as a volunteer. David frequently takes a leadership role and has served in executive positions on

more than 75 boards of various community organizations.

At the national level, David has been a member of the Selection Committee for the Prime Minister's Award for Teaching Excellence since 1988, has served on the National Board for Canadian Parents for French, and has been Treasurer of the Chemical Institute of Canada's Chemical Education Division for several years.

At the provincial and local level, David has been involved with the Western Manitoba Career Symposium, the Westman Recycling Centre, the Manitoba Science Olympics, the Neelin High School Parent Council, the Western Manitoba Science Fair, the Legislation Committee of the Association of Professional Engineers and Geoscientists of Manitoba, the Manitoba Organization of Faculty Associations, the Brandon Wine Society, and the Brandon Sport Parachute Association. David also volunteered for the 1995 World Curling Championships and the 1998 Canada Summer Games. He is a blood donor with Canadian Blood Services, having made 114 donations, and is on the Unrelated Bone Marrow Donor list.

In addition to these volunteer activities and working full time, David also finds time to participate in coordinating Brandon University events such as the biannual Lab Experience Program for senior high school students who visit the B.U. campus to participate in a Chemistry lab. He is passionate about travelling, enjoys learning about other countries and cultures, and shares most of his adventures with wife Kathryn and daughter Sheena.

The Board of Governors Award for Excellence in Community Service is given in recognition of candidates who "are appraised in terms of their community service that contributes positively to the quality of life in society."

Canadian Society for Engineering in Agricultural, Food and Biological Systems Announcement

Digvir Jayas, Canada Research Chair in Stored-Grain Ecosystems and Associate Vice-President (Research) at the University of Manitoba was elected



Digvir Jayas, P.Eng.

as President of the CSAE, the Canadian Society for Agricultural, Food and Biological systems at its Annual General Meeting in Montreal on July 8, 2003. The current membership of the Society is about 700 and includes agricultural, food, and biological engineers from government, industry, and universities. The objectives of the Society are: (i) to advance the application of engineering principles and practices for the betterment of agriculture and the applied sciences; (ii) to advance the standards of agricultural engineering in the fields of research, education and practical application; and (iii) to encourage professional improvement and foster agricultural engineering education.

Canadian Institute of Food Science and Technology Award

Digvir Jayas, Canada Research Chair in Stored-Grain Ecosystems and Associate Vice-President (Research) at the University of Manitoba has received the Canadian Institute of Food Science and Technology's 2003 Institute Award. This award is given annually to an individual who has made an outstanding contribution to the Institute. It is the highest honour bestowed by the organization each year. Digvir has been a member of the CIFST for 18 years, and has served terms as President of both the national association and the Manitoba branch of the association. CIFST is a 1600-member organiza-

Continued on page 21

June Council Report

Continued from page 4

time for the coaching reports. This is when Council looks inward and decides how well they are adhering to the principles of Policy Governance. Past President Barakat made an excellent observation when

he said they shouldn't spend too much time deciding if they are following the rules. Policy Governance was the right way today, he said, but in ten years maybe no one will use it. Often today's orthodoxy is tomorrow's fad. In any event, no one was willing to provide a verbal evaluation of today's meeting. Maybe they are tired of Policy

Engineers in the News

Continued from page 4

tion of professionals from industries (70%), universities (15%) and governments (15%). The CIFST's purposes are: (i) to advocate and promote the quality, safety and wholesomeness of the food supply

through the application of science and technology by linking food science professionals from industry, government and academia; (ii) to provide a forum for exchange of scientific and business ideas; and (iii) to be a major voice on scientific issues and public policy affecting the food supply. ■

Canadian Standards Association Names Award of Merit Winner – E.H. (Erni) Wiebe Honoured

St. Andrews by-the-Sea, New Brunswick

The Canadian Standards Association honoured E.H. (Erni) Wiebe at a special awards ceremony during their Annual General Meeting in St. Andrews by-the-Sea.

E.H. (Erni) Wiebe, a registered Professional Engineer (P.Eng.), received the CSA Award of Merit for his significant contribution and strategic leadership in the development of key standards related to electrical engineering and the Canadian Electrical Code Part III.

"The Award of Merit is our way of recognizing the outstanding contribution our volunteers make to CSA every year", said Pat Keindel, President, Standards, Canadian Standards Association. "Their commitment and leadership are the backbone of this organization. They help develop each and every one of our standards and we are very thankful for their hard work and dedication."

Mr. Wiebe has demonstrated his valuable expertise and outstanding leadership through his participation on various CSA Technical Committees and Sub-Committees for approximately 15 years. He is currently Chairman of CSA Technical Committee C22.3 No.1 on Overhead Systems, which for the first time, in its 2001 edition, incorporated reliability-based design



methods for overhead transmission line systems. Mr. Wiebe has made many significant contributions in areas related to electric utility distribution including CSA standards on distribution transformers, energy efficiency, wire and cable, and systems standards.

Mr. Wiebe is also a Charter member and past Chair of the CEA Technologies Inc.'s Distribution Asset Life Cycle Management R&D Interest Group. He is also the co-inventor of the Sub-Station Saver Transformer, a revolutionary application of distribution pad-mounted transformer design to sub-transmission and transmission voltage station transformers.

Mr. Wiebe, a resident of Winnipeg, has worked at Manitoba Hydro for more than 25 years as a Distribution Standards Engineer and Manager. ■



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THOUGHTS ON

Design

...as a political process

By: M.G.(Ron) Britton, P.Eng.

There was an election this spring here in Manitoba. In Nova Scotia, they voted in the summer and Ontario is likely to do the same this fall. Meanwhile, the federal scene is one continuing debate over where the power lies and when (if?) it will change. Politics is everywhere, except, of course, in our world of design.

But is that true? Is design a simple case of dealing with the "facts" in a dispassionate, reasoning manner and optimising the "realities"? In his book, *The Innovators*, David Billington makes a case for "social fact" (i.e. politics) as a fundamental component of engineering design. The idea seems to be worth considering.

Billington is a structural engineer, so naturally his argument is

based on a structural example, but the fundamental concept spans all areas of design. I leave it to you to consider examples from your own area of practise.

His discussion is centred around cable suspension bridges and his analysis is very basic. Under static analysis, total tension force in the cable at midspan (H) can be predicted using the relationship

$$H = qL^2/8d$$

where q = is the load on the bridge in pounds per foot of bridge deck length, L = the horizontal span in feet, and d = the vertical sag in the cable (or rise in the arch) in feet.

Vertical forces at the ends of the cable (V) can be predicted using the summation of vertical forces so that

$$V = qL/2$$

So, the force in the cable is dependent on the load on the bridge (qL). But it is also dependent on the ratio (L/d). Certainly not a complete analysis, but fundamentally correct as far as it goes. It passes a logic test since both equations suggest that as the total load on the cable increases, either due to increased span or increased service load, the forces involved increase. Similarly, as the sag in the cable increases, the horizontal load decreases for any given span.

Obviously as H or V increase, the amount of material required to resist those forces also increases. Considering the tension in the cable, the area of cable required to handle the force is

$$A = H/f$$

where A = the area of the cable in square inches and f = the allowable stress in pounds per square inch.

It seems to be a classic design trade-off based on statics and "known" facts. In order to decrease the size of the cable for any given span and service load, one can increase the sag in the cables. But that increases the cost of the towers that support the cables because they will need to be taller and it adds length to the cable, affecting that cost as well. In the design process, the situation can be optimised by adjusting the variables until an economic solution can be found.

Thus far the cable bridge problem seems to be nothing more than an assessment of physical "fact" and fundamental physics. But is that really the case?

The load on the bridge may appear to be physical, but it is founded in "social fact". OK, there are many different studies that define the magnitude of loads based on all sorts of physical constraints, but these are, after all, simply constrained studies of "cause and effect". Traffic loads (q) are established by "authority" and all "authority" in our western democracies is founded in politics.

Questions relating to the type of traffic, the number of lanes of traffic, community zoning regulations, and other "flow" issues will determine the magnitude of q . Questions relating to traffic patterns, community development, environmental impact, and other "quality of life" issues will play a large part in defining L . Admittedly those making the political decisions will often seek the advice of engineers as the discussions proceed, but ultimately factors that have nothing to do with design constraints will dictate the decisions. So it can be argued that loads on bridges are actually politically determined prior to their mathematical definition.

Once the loads, and therefore the forces in the cables, are defined, a second "social fact" comes into play in determining the cross-sectional area of the cables. The physical reality of dividing the cable force (H) by the allowable stress (f) to determine the size of the cable seems free of political interference, but the very term "allowable" suggests otherwise. Because we work with "allowable" stresses or "limit states" or any number of other ways of inserting factors of safety into our calculations, f becomes a "social fact" as well.

Factors of safety vary considerably depending on the application under consideration. A roof over a hay shed is treated very differently compared to a roof over a school. Authorities express their level of concern through Codes and Standards they impose. Codes and Standards may have their origin in engineering committees where the technical issues are taken under consideration, but ultimately they are subject to public review. Public review is another way of defining political input.

By the time "numbers" find their way into design calculations, their inherent variability has been complicated by political decisions. The quality of those political decisions will be determined, to a large extent, by the technical literacy of the persons making the decisions. As engineers, the quality, durability, reliability and affordability of our designs will depend as much on the "social facts" we use as the "technical facts" and analysis theories. Maybe those "social facts" represent an area of design improvement our profession needs to consider more seriously. ■

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2003 APEGM Spring Golf Tournament

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

This year's installment of the APEGM Spring Golf Tournament took place on Wednesday, June 11th, at Pine Ridge Golf Club. As always, the tournament was a resounding success in regards to participation, with 38 teams and 152 golfers making it out for a day of golf and socializing. Contrary to the recent trend, the APEGM office did not have to field a barrage of phone calls inquiring whether the tournament was a go because of the weather.

After golf, the festivities moved into the reception hall. The Landon Cup (1st place) and Sullivan Cup (2nd place) trophies were awarded by current APEGM President-Elect, Arnold Permut. The first place team of Julien Lavergne, Brad Draward, Alan Coppinger, and Mike Flynn prevented last year's winners from three-peating with a score of -10 on the ever-demanding Pine Ridge layout. The second place team of Dana Bell, Don Lecuyer, Chris Peck, and Rob Coldwell finished with a score of -8, and was awarded 2nd after the dreaded count-back. Both teams are always in the running each year.

Once again this year the members attending the golf tournament overwhelmingly supported the KidSport and MS Society's fundraising efforts. Next year's tournament will once again be held at Pine Ridge on Wednesday, June 9th. Please keep an eye on the mail for the registration form.

The Sports Committee would also like to thank the following companies that supported our tournament by sponsoring a hole and/or donating prizes. Our apologies if we have missed any one.

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For further information contact the CCPE National Scholarship Program Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, Ontario K2P 2K3 Tel.: (613) 232-2474 Fax: (613) 230-5759 E-mail: member.services@ccpe.ca Website: www.ccpe.ca

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