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THE KEYSTONE PROFESSIONAL

In This Issue:

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

FEBRUARY 2005
www.apegm.mb.ca

Meet your new President – Allan Silk, P.Eng.

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

Allan was born and raised in Winnipeg, spending his formative years growing up in the River Heights area. He is married to Colleen, and they have two children; Ian who is 11, and Erica who is 9. He received both a certificate and a diploma from Red River College before attending the University of Manitoba, graduating with his degree in Computer Engineering in 1985. Upon starting to work at Manitoba Hydro, Allan realized his progression within the organization would be limited without adding to his skill set, so he enrolled in additional courses at the U of M in electrical engineering. He was well on his way towards a Master's Degree before the pleasant interruption of his scholastic career by the arrival of his first born.

Allan's current position with Manitoba Hydro is Integrated Network Performance Engineer. He leads a group within the organization that is responsible for providing all the HVAC (high voltage alternating current) operating procedures. They are responsible for creating computer models of the Eastern Interconnection Power Grid that spans from the East side of the Rocky Mountains to the Atlantic Ocean and South to the Mexican border, with the exception of Texas. They study the impact of various disruptions and problems on the power grid to determine acceptable levels of stability, and report back so as to ensure Manitoba Hydro is operating within these parameters.

Allan is in his fourth year on Council, having spent the last two years as Executive Councillor and President-Elect. Over the previous three years Allan discovered that Council has to deal with many issues, and he decided the way to make the greatest impact during his year as President would be to

choose one particular issue he felt strongly about and champion it during his term. The issue facing APEGM members he has chosen is inter-provincial mobility. This issue is of particular interest to our geoscience members. Allan recently attended the CCPG conference, and the number one issue discussed was mobility. It is not uncommon for a geoscientist to be awarded a job that would require a final report, for example a prospectus, to be issued under seal within five or six weeks of award. In some provinces this would not be a hindrance, as it is possible for an experienced member in good standing with his/her home province to become registered within a week. This in not the case currently in Manitoba, and it is Allan's desire to see this achieved. The other issue that arose in our discussion that seemed of great interest to Allan was the relationship between APEGM and the MAA (Manitoba Architects Association).

Allan is really looking forward to his year as APEGM President. One change you will see this year with Allan as our President is that the Executive Director's Message will once again become the President's Message in each issue of the Keystone Professional. He is looking forward to the opportunity to meet people interested in the engineering and geoscience professions throughout Manitoba and Canada. He has already visited a couple of the Manitoba Chapters of APEGM, and plans on making at least one trip to each one. He has realized the year will take a fair amount of time and work, but he is excited about the challenge, and feels he is up to it. In talking to him for an hour on the phone and listening to the passion in his voice, it is not hard to believe he will put his heart, along with his many other talents, into the next ten months as President. I wish him all the best, and look forward to reading his articles in the upcoming publications. ■

President's Message

It is an honour to begin my term as President of your association and I look forward to having a very enjoyable if not full year. I have found the last three years on Council to be very rewarding. I have served on your Council under three very capable presidents, Moe Barakat, Lawrence Ferchoff, and most recently Arnold Permut. They have left very big shoes to fill, and I only hope that my feet are big enough.

As I begin my fourth year on Council, it is hard to believe that this is only the fifth year that Council has used Policy Governance® as its method of governing the Association. This method of governance was developed by John Carver. Policy Governance® is designed to ensure that the Executive Director is accountable to the Council, and that the Council is accountable as "trustee" to its "moral ownership". To facilitate this accountability, Council develops Ends statements after meeting and consulting with the Association's moral ownership and stakeholders. Council has defined our moral ownership as our members, the public, government and municipalities, educational institutions, etc. These Ends are broad policy statements which state the direction in which the Association is moving. Each Ends statement is directed to a specific group and state a worth to the Association. The Executive Director produces a "reasonable interpretation" for each End and at each Council meeting time is spent reviewing these interpretations and monitoring the Executive Director's actions in moving the Association towards these Ends.

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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.

Publications Mail Agreement Number 40062980

New Members Registered November & December 2004

S.B. Adkins (AB)	A.B. Duplessis (ON)	S.C. Kowalewski (ON)	R.L. Rosin
M.R. Ahsan	S.D. Fjeld	T. Li	G. Schorn (ON)
S.R. Ami (QC)	M.N. Foot (SK)	A.H.F. Li	L.Sedore
S. Anand	A. Ghanem	L. Lukic	D. R.Susanto
N.W. Barmeier	A.G. Gordon	G. Luna	M. A. Suzio
M.L. Bendix (ON)	J.P. Hacault	T.V. Luong	M.Thomas
D.A. Burns	A.M. Hamilton	R.M. Olivier	J. T. Turner
A. Buscemi	C.J. Hewitt	K.M.K.Park	Z.Zhou
R. S.Carter (ON)	B.S. Janz	C.A.Pugliese (SC)	
B.A. Christensen	I.K.Khan	K.W.Richards (ON)	
G.J. A.Delaurier	S. Koeuth		

Members-In-Training Enrolled November & December 2004

S.D. Anderson	J.A. Epp	M.F. Mason	D.L. Slack
T. Aziz	H.L. Fisher	C.G.G. McNabb	D. Tesfamariam
S.V. Bablecos	T. Giesbrecht	R.B. Offman	M.J. Van Helden
R.K. Beardy	G.P. Hamilton	M.P. Patel	J.D. Wiens
J.S. Bunn	D.A. Ho	C.W. Pelda	
K.T. Chekosky	A.K. Legary	J.Piplica	
M.A. Coolidge	D.B. Litke	W.R.T.Quinn	

Reinstatements November & December 2004

R.R.J. Chartrand	D.J. Moffat	B.D. Nielsen

Licenses Issued November & December 2004

J.E. Burson (TX)	P.D. Galloway (WA)	R.D. Rempel (CO)
T.T. Fujikawa (UT)	S.H. Gebler (IL)	E.J. Weden (OR)

Resignations 2004

W.E. Andrejowich	R.A. Harris	P.A. R.Lowe	D.A. Redekop
N.J. Banton	J.R. Hawryluk	K.W. Major	H.R. Rudolf
C.J. Bonsall	H.B. Irvine	L.C. Martin	M. Samp
P.M. Bortolin	G. Jarvis	R. F. Mazza	E.S. Schraml
B.D. Clark	R.A. Johns	R. E. McCallum	A.C. Shea
D.W. Cocking	G.E. Johnson	J. R. McGee	H. Shimizu
G.S. Cooper	J.H. Kennedy	J. G. McKay	D.B. Smith
N. Cote	M.D. Kirkham	T. P. Meier	C. Steneker
B.J. Deans	M.T.H. Koh	G.W. Meyer	E.H. Wagner
L. Du Toit	K.S. Kozakewich	E.Z. Nejat	J.M. Wiseman
F.G. Evetts	R.C. Lacasse	J.D. Nolin	R.D. Woolgar
R.J. Friesen	A.C.L. Larocque	J.R. Pehkonen	X.L. Yao
G.L. Gamby	G.W. Laycock	J.B. Petsnik	D.R. Young
R.S. Gibbings	C.H.C. Lee	J.H. Price	C.W. Zarecki
J.H. Goertz	J.W. Loring	C.M. Recto	T.J. Zitkus

EIT/GIT Resignations 2004

G.A.G. Ferguson	C.P. Madrid	K.C.G. Tse
J.L. Gratton	S.D. Masse	J.J. Weppler
M. Lioubachevski	T.M. Partap	S.J. Young

Certificates of Authorization

BnZ engineering
BPTEC-DNW Engineering Ltd.
Kelly Ami Inc.
Neill and Gunter Limited
Omega Joists Inc.
TPE Group Ltd.
Vision Engineering Ltd.

In Memoriam

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

Ronald M. Gordon
Mohan Kumar Plandey
Md. Lutfar Rahman
John Irvine Glanville

Professional Development

Structural Impact of Wind and Tornadoes

Luncheon Presentation – Tuesday, Nov. 30, 2004

By: W.C. Boyce, APEGM Staff

Approximately 30 people attended the APEGM PD Committee presentation by Mr. Jay Anderson of Environment Canada, on the impact of wind and storms on structures, held at the Holiday Inn South. Mr. Anderson is Manager of the Warning and Preparedness Program at the Prairie and Arctic Storm Prediction Centre located in Winnipeg.

An amateur astronomer since the early 60's, Jay Anderson is a graduate in astronomy and physics from the University of British Columbia; and is now a senior meteorologist with Environment Canada in Winnipeg, Manitoba. In his career of more than 30 years with Environment Canada, Jay has been a public forecaster; satellite meteorologist; marine forecaster; mountain forecaster; severe weather meteorologist; shift supervisor; and most recently, Manager of the Warning Preparedness Program for the Prairies based at the Prairie and Arctic Storm Prediction Centre in Winnipeg.

Mr. Anderson has published studies of winter and summer storms and thunderstorm forecasting techniques, and local impacts of climate change. Jay has also been studying and writing about the world's climatology for eclipse chasers ever since the late 1970's. Currently, Jay is compiling a database of severe weather events on the Prairies, since the arrival of European settlers in the 1800s. Occasionally, when the mood strikes and the weather permits, Jay has been known to indulge in a little tornado chasing.

Tornado: *a narrow (10 – 1000 m) vortex in contact with the ground and the base of a convective cloud.*

Since the 1860s, there have been over 1800 confirmed tornadoes on the Prairies. Twelve of these storms were within the City of Winnipeg; with one death reported in 1900. The peak period for tornadoes on the Prairies is the first week of July, with the peak day being June 30th. Most tornadoes in Manitoba and the Prairies fall into the F0 category of the Fujita Damage Scale.

Tornadoes of F3 and higher, although uncommon, cause the most damage to property and loss of life. However, any tornado is a danger to both life and property.

Tornadoes also strike cities (eg: Edmonton, 1987) causing severe damage to buildings.

It has been found that between 60 and 70% of businesses damaged by a tornado never recover. In 2004, there were only three tornadoes in Manitoba due to our cooler summer.

Convective windstorm: *a strong gust or short-duration wind that descends from a convective cloud (microburst, downburst, plough wind, derecho, macroburst, bow echo)*

- Probably more common than tornadoes
- cover large areas with speeds up to 200 km/h
- more commonly: 120 - 150 km/h
- frequent at night when warnings are not heard

Often, windstorms will have a series of microbursts (areas of intense high winds) associated with them. There are both Dry and Wet Microbursts.

Dry Microburst – A Shelf Cloud

- June 20, 1995
- Squall Line moved through Southern Manitoba
- Damage from Lake Manitoba to south of Morden/Winkler
- Significant damage to tents at Red River Ex.
- Grosse Isle (160 km/h)

Wet Microburst

- Pakwash, ON July 18, 1991
- Estimated wind 200 km/h (Cat 3 Hurricane Force Winds)
- Could have impact on eastern Prairies

This wet microburst in the Pakwash, ON area is one of the best documented in the world. The storm, which lasted over an hour, devastated an area 75 km wide by 200 km long, flattening almost every tree in the region.

The Hydro Blowdown – September 5, 1996

This storm, with sustained winds of 100 km/h, ran approximately 75 kms from Poplar Point to Stony Mountain. It is believed that microburst gusts of 150 - 180 km/h in the storm were responsible for bringing down one of the hydro towers. The additional strain of this tower failure, plus the sustained winds of 100 km/h, caused the collapse of additional towers along the line. Power from the north was interrupted for two weeks.

Structural Impacts of Winds and Storms

- The greatest outward (or uplift) wind pressures occur around windward walls, roof corners, eaves, and ridges.
- The damage due to wind typically involves the removal of wall cladding and roof coverings at these locations.
- There is no substantial difference between wind damage from tornadoes and from hurricanes
- Building damage initiates from wind pressure breaching the building, not from low barometric pressure
- The wind typically enters the building through broken windows or doors
- Openings on the windward side of a building increase the internal wind pressures, resulting in additional uplift on the roof

Wood frame building failures

- Main failure points
  – wall/foundation,
  – wall stud/bottom plate,
  – roof joist/top plate, and
  – rafter/top plate.
- Survey after survey in the US has shown that wind-induced damage is greatly increased because of construction code violations

Metal Clad Buildings

- Inward buckling of overhead doors frequently led to loss of roof and wall corner cladding.
- Openings in the windward side of a metal building resulted in increased interior wind pressures, especially when there were no openings on the remaining building faces
- Open bays "catch" the wind, causing increased wind pressures on cladding.
- Similar failure initiation points in metal structures have been noted in hurricane damage.

Weak points in construction

- Unreinforced concrete block masonry is vulnerable to lateral wind loads
- A common failure point on roof systems occurs where the roof membranes are attached to edges and corners
- Another failure initiation point is due to the lack of attachment between insulation board and the roof deck – insulation board must be applied while the bitumen is warm in order to bond properly

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Meet Your New Councillor, Dr. James Blatz, P.Eng.

By: S.B.Williamson, P.Eng.

You could say that I have known James Blatz since he was 10-years old as we attended the same elementary school in Brandon. However, this statement is somewhat untrue as James moved away back then and it wasn't until I joined APEGM's Communications Committee that I really got to know James. Now, I have had the pleasure to find out a little more about him.

James grew up and completed high school in Rivers, Manitoba. In 1996, James received his undergraduate Civil Engineering degree from the University of Manitoba. He then continued his education by taking graduate courses at the University of Alberta. In 2000, James completed his Ph.D. in Geotechnical Engineering at the University of Manitoba.

After being awarded a NSERC Post-Doctoral fellowship, James went on to study the behaviour of reinforced embankments for bridge abutments at the GeoEngineering Centre at Queen's-RMC. This included interpretation of test results for full-scale embankments 3.5m high, that were constructed and loaded to failure in the testing facility at the GeoEngineering center.

James returned to Manitoba after accepting a faculty appointment as an Assistant Professor at the U of M in the Department of Civil Engineering. James teaches undergraduate courses and graduate courses in geotechnical engineering and finite element analysis and currently supervises eight graduate students at the MSc and PhD levels working on research projects for various agencies including the City of Winnipeg, Province of Manitoba, Federal Government and numerous private industrial sponsors. One of his most notable projects on the behaviour of sandbag dikes for flood protection gained considerable public exposure in the news this past summer.

James has been an active volunteer over the last number of years in APEGM through his involvement on the Communications Committee and Experience Review Committee. In his new role as a Councillor, I asked James what he hopes to accomplish. James responded with three primary initiatives that were outlined in his platform. These initiatives include maintaining the strong link between the University of Manitoba and APEGM; and helping in maintaining and streamlining the member-in-training program. James highlighted that these first two initiatives are already well underway by the work of the previous Council and that his role will be to support and develop further initiatives in those areas. His third initiative, and primary focus, is to pursue better enforcement policies for non-members practicing in contravention of The Engineering and Geoscientific Professions Act.

New Councillor James Blatz, P.Eng.

Aside from his teaching and furthering his research in the intricacies of geotechnical engineering, James enjoys training in mixed martial arts and traveling with his wife, Shona, who is also a graduate of the Faculty of Engineering at the University of Manitoba (Computer Engineering).

The ambition James will bring to Council will serve the membership well and I for one, look forward to hearing more from our new councillor. ■

The Chicago Healer

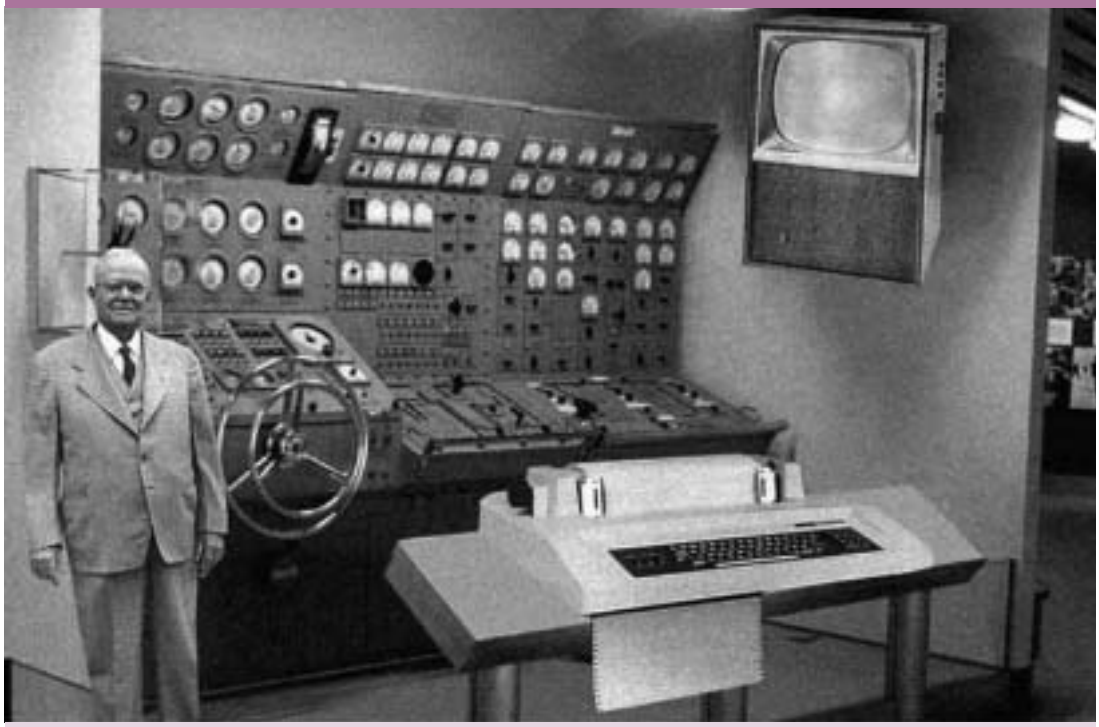
A novel by APEGM member Paul H. Boge, P.Eng.

Review by E.P. Hancox, EIT

Ever wonder how today's society would react to someone who truly had the ability to miraculously heal; but refused to gain from it? What would you do with this sort of power? How would you deal with the inevitable throngs of needy, the paparazzi? The Chicago Healer gives us a glimpse of how a market-driven culture might react to this phenomenon. Right from the opening line, Paul Boge puts the reader behind the eyes of the character. Single evocative statements replace volumes of descriptive text with subtle elegance; a pleasure to read. Throughout, one never knows where the tale is leading; adding to the suspense and one's inability to set the novel down. In the end, the reader is left with an enjoyable insight into possibilities and undoubtedly muttering "why not?" In short, I've been telling everyone I know you MUST read this book!

Editor's Note: Paul won the 2003 Best New Author Award for this novel, which is already in its second printing. ■

BLAST FROM THE PAST



Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look in the year 2004. However, the needed technology will not be economically feasible for the average home. Also the scientists readlily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use. (Photo from 1954 Popular Mechanics Magazine.)

Professional Development

Manitoba Hydro's R&D Program

Breakfast Presentation – Wednesday, November 17, 2004

By: R.J. Bruce, P.Eng., APEGM PD Committee

On Wednesday, 17 November, 2004 a small audience heard an interesting and informative breakfast presentation by John Kreml, P.Eng. regarding Manitoba Hydro's R&D Program.

Funding for the program is approximately $4 million per year and there are currently 182 active projects being pursued in various fields of interest to the Corporation. The presentation talked about Hydro's strategic objectives and how these projects fit within these objectives. The main expenditure areas are Generation (28%), Transmission (17%), Distribution (2%), Utilization (10%), Interest Groups (23%) and Other (20%). The program funds a wide variety of projects from increasing the efficiency of electrical generation and transmission, to environmental impact studies, to energy efficiency.

While there isn't space here to list all of the projects, some of them are: small generators for use in natural waterways; studying temperature problems associated with the HVDC converters; tagging Beluga whales in the Nelson River estuary; studying tree core samples to support long-term climate studies; transmission line vibration recorders designed and developed at the local Industrial Technology Center; use of domestic grey water for heating; methane production from the Brady landfill; and some of the design innovations of the new downtown Manitoba Hydro building.

The description of the variety of projects, the innovation produced by them, and the partnerships involved in them helped to make this a very interesting presentation. The program also co-funds three research chairs as well as research done by Masters and PhD students at various universities. Manitoba Hydro is to be complimented for its innovation, contribution to the community and the environment in funding this program. The author thanks Hilmi Turanli and John Kreml for their assistance in finishing this article. ■

President's Message

Continued from page 1

To ensure that Council is not micromanaging the Executive Director while performing his duties, Council has developed seventeen Executive Limitations and has told the Executive Director that he can do anything to move the Association towards its Ends as long as he remains within the "corral" of the Executive Limitations. These limitations address such matters as Executive constraints, staff dealings, financial planning and accountability, dealing with members, government, and the public.

The Executive Director will also act for Council, within the limitations set by Council. Items delegated to the Executive Director are then placed on the Council's consent agenda. The action taken and background material is distributed to Council prior to the Council meeting. If any councillor wishes to remove an item from the consent agenda, it is moved to the regular agenda for consideration by the Council. If no one is moved to remove the item from the consent agenda, the action is approved by Council automatically once the regular agenda of Council has been approved.

This leaves more time during Council meetings for Council to meet with its "moral ownership". We try to determine what is important to our moral ownership, and if we feel that something is lacking in our direction, we will change our Ends to meet that need.

For more information on Policy Governance® please visit our coaches website ***www.jannice-moore.com/pg_prime.htm*** APEGM's policies can be found at ***www.apegm.mb.ca/practice/policies/policies.pdf***

I don't know if Policy Governance® is Council's end-game, but it is a very good foundation that I believe has served Council well. It is my hope that during this year that Council will review its implementation of Policy Governance® with the view of making it even better.

I had the privilege of attending my first Canadian Council of Professional Geoscientists (CCPG) meeting in Toronto in November. In preparation, my nine year old daughter, who happened to be studying rocks in school at the time, gave me a rock classification test, which I failed miserably. Thankfully, when I arrived in Toronto, I found that rock classification wasn't nearly as important as mobility and multi-jurisdictional licenses. CCPG's Directors recognized that a multi-jurisdictional license was not going to be cost effective. However, the streamlining of the Inter-Association Mobility Agreements is something that all Associations can do. I know that this is the number one issue on the minds of our geoscience members and I am committed to finding ways of meeting their goal of processing a mobility application within days.

CCPG, which depends almost entirely on volunteers, is trying to secure funding from its constituent members (the Associations) to hire an Executive Director. Presently the Alberta Association (APEGGA) provides most of the office support for CCPG. APEGGA receives $6000 annually for providing these services. I can assure you that this amount does not begin to cover the resources allocated by APEGGA. The establishment of an Executive Director position is essential if CCPG is to survive. Your Council will be dealing with this item very soon.

An issue that has required, and will apparently continue to require considerable attention, is the ongoing jurisdictional dispute with the Manitoba Association of Architects coupled with its application in the Court of Queen's Bench for a supporting injunction against The City of Winnipeg. The Executive Director reported on this in the September issue of this publication. At the time of this writing, the Chair of the Engineering, Geosciences and Architecture Inter-Association Relations Joint Board has issued a draft report with some promising and some disturbing recommendations. Your representatives on the Joint Board are in ongoing discussions on the matter. The final Report will be posted on the APEGM website when it is released, and the decision of the matter of the injunction application is scheduled to go before the Court in February.

I am interested in receiving your comments and suggestions in regard to the governing and regulating of our professions. They can be provided by mail or facsimile (474-5960) to the APEGM office, or by email to ***adsilk@hydro.mb.ca*** ■

Students Receive Laptops

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

Université de Moncton was the first university in Canada to provide laptop computers as a regular part of the engineering curriculum, according to Gilles Cormier, P.Eng., Dean of Engineering at UdeM.

This was the third year UdeM had provided laptops Dean Cormier said, adding that students were enthusiastic about the program and had benefited greatly from it. In return for higher tuition fees, students were provided with up-to-date software and hardware which wouldn't be available to them any other way.

Dean Cormier described the computer as both a teaching and learning tool at UdeM. He said they were in a transitional phase when it was hard to do away with textbooks altogether, but he believed that within five years most learning materials would be available on the Internet. UdeM was also working towards full Internet connections in all classrooms.

Dean Cormier, a 1980 graduate from Université de Moncton, was a consultant to the ship-building industry for many years before he returned to university to get his Ph.D.. He eventually turned to teaching, becoming a professor in 1987. Five years ago his academic career culminated in his taking the top job at UdeM. ■

(Taken from "Engineers Create on Grand Scale" by Kate Wright, Association of Professional Engineers and Geoscientists of New Brunswick on-line news archive.)

Target Your Exploration:

Highlights from the 2004 Manitoba Mining and Minerals Convention

Submitted by Manitoba Industry, Economic Development and Mines

More than 800 delegates attended the 36th annual Manitoba Mining and Minerals Convention held November 18th to 20th in Winnipeg, Manitoba. With the recent upswing in metal prices and capital market financing, the timing was right to discover the province's mineral potential and to ***Target Your Exploration*** in Manitoba.

The convention offered 27 presentations, two special workshops and an exhibit area featuring geoscientific poster presentations, the mineral properties showcase and the latest in industry-related products and services.

The convention kicked off with welcoming remarks from Jim Rondeau, Manitoba's new Minister of Industry, Economic Development and Mines, and the Mayors of Manitoba's mining communities. The message was clear – Manitoba welcomes mineral exploration and development and has the support, services and resource potential that make it the ideal target for new ventures.

Government support for Manitoba's mining industry was evident from the opening remarks of Minister Rondeau and the keynote address by The Honourable Gary Doer, Premier of Manitoba.

The Minister underscored the importance of exploration and mining to the province's economy and stated that the discovery of new ore reserves is essential to the sector's long-term viability. He noted that industry recently ranked Manitoba 1st in Canada and 6th internationally on mining policy, highlighting several new initiatives and recent successes in key policy areas:

- the provision of high-quality, publicly available geoscience information: collaborative geoscience programming with federal and provincial/territorial governments or agencies, industry and academic partners increased funding by $2 million in the last two years resulting in new data releases that help stimulate exploration investment in the province; continuous improvement of internet service delivery through the GIS Map Gallery and the upcoming release in November 2005 of 3,000 previously confidential assessment reports;
- a stable and effective regulatory framework: a multi-stakeholder approach to land use planning that respects existing tenure and regulations; to date 14.6 million hectares have been withdrawn from exploration and mining without a single mineral disposition or area of high mineral potential compromised;
- exploration incentives: programs designed to help mitigate risk and enhance investment such as the Mineral Exploration Assistance Program and Prospectors Assistance Program, which provide up to 35% in direct financial assistance to a maximum of $200,000 per project and 50% assistance to a maximum of $9,000 per project respectively, and the Manitoba Mineral Exploration Tax Credit, offering a 10% tax credit to flow-through share investors.

Minister Rondeau also mentioned the importance of working with communities. The Manitoba government has been collaborating with mining community representatives to promote regional opportunities and services for exploration and mining, and northern and Aboriginal communities that have expressed a desire for meaningful involvement in the mineral industry to increase employment and economic development opportunities.

Two new initiatives developed to increase Aboriginal involvement in the minerals industry were singled out:

- the Aboriginal Mining Workshop, held as part of the convention, to learn more about the business of exploration and mining and opportunities for Aboriginal participation;
- a new 10-week Prospector Training Program offered in the spring of 2005 at Manitoba's University College of the North to provide training, education and support towards employment or economic development opportunities in the mineral exploration sector.

The Premier reiterated the government's support for the industry and the mining sector's important contribution to Manitoba's economy and quality of life. Doer noted that a consultative approach was used in the development of Manitoba's mining policies and that government will continue to work with industry to ensure that the province's favourable ranking is maintained. The Premier also touched on the Kyoto Accord, seeing Manitoba as a net contributor of credits and commended Manitoba's mining industry for operations that have already met or exceeded Kyoto greenhouse gas emission reduction targets.

Simon Hanmer of the Geological Survey of Canada (GSC) opened the sessions with a presentation on *Cooperative Geological Mapping Strategies Across Canada* (CGMS). The CGMS, as proposed by the National Geological Surveys Committee, will replace previous federal and provincial/territorial programming such as NATMAP and the Targeted Geoscience Initiative. The CGMS is a long-term strategy for renewed government investment in cooperative public geoscience targeting 4 specific outcomes:

- a secure energy supply for Canada;
- prosperous resource-based communities/regions;
- new economic development opportunities in frontier areas;
- environmentally responsible stewardship of geological resources.

If federal funding is approved this February, implementation is expected to begin in 2005 and could provide national support for collaborative geoscience initiatives into the next decade.

An overview of the Manitoba Geological Survey's (MGS) activities for 2004 was presented by the survey's Director, Ric Syme, who

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Delegates discover the latest in products and services at the trade show.

Target Your Exploration

Continued from page 6

reported on three TGI projects jointly funded by the MGS and GSC:

- Trans-Hudson–Superior Margin Metallotect: one of the project components, a high-resolution aeromagnetic survey covering the northern extent of the Superior Boundary Zone in the Assean Lake area, produced 22 new aeromagnetic maps of the region which were released at the convention;
- Williston Basin Architecture and Hydrocarbon Potential: a project bibliography is nearing completion and will be accessible from a new web site developed by the MGS in partnership with Saskatchewan Industry and Resources; the first set of maps to be produced will cover the Lower Paleozoic and are scheduled for release March 31, 2005;
- Western Churchill Metallogeny Project for which Manitoba will be contributing a geological compilation of 1:250 000 NTS sheets and an isotopic analysis of samples.

Survey activities in 2004 included:

- work in the Thompson Nickel Belt (TNB) and Superior Boundary Zone that will help determine the full extent of the TNB and identify new prospects for nickel deposits;
- stratigraphic mapping and structural analysis of major copper-zinc deposits in the Flin Flon Belt undertaken with Laurentian University to provide a better understanding of the setting of these deposits and new targets for follow-up exploration;
- geological mapping, geochemical surveys and mineral deposit studies in the Flin Flon and Snow Lake areas;
- studies on the geology and gold mineralization of the Rice Lake and Lynn Lake belts and the Assean Lake area; and
- investigations on the potential for kimberlites in the far north as well as the Kaskattama Highlands in the Hudson Bay Lowland.

MGS products highlighted in the presentation included Version 3.0 of the Manitoba Kimberlite Indicator Mineral (KIM) Database – upgraded with additional data, added functionality and an improved garnet classification system – and sixteen new 1:250 000 surficial geology maps of southern Manitoba.

Minister of Industry, Economic Development and Mines Jim Rondeau addresses delegates.

The 'Golden Opportunities' sessions included industry presentations on advanced exploration projects in new and proven gold districts. Foran Mining Corporation described the exploration and development of their North Star property near Snow Lake. Rice Lake Gold Corporation, the new owners of the Rice Lake Gold Mine near Bissett, reported on significant changes over the last 3 years – including debt-free ownership, a solid business plan and current gold prices – that have positioned the mine to be Manitoba's next gold producer. Canadian Gold Hunter Corp. outlined the company's highly successful multidisciplinary approach to exploring their Assean Lake gold property northeast of Thompson. An MGS presentation provided a geological overview of the Superior Province, one of the most prolific gold-producing regions on Earth, and new findings on the metallogeny and exploration potential of orogenic lode gold deposits in Manitoba.

A full slate of sessions focusing on the Trans-Hudson Orogen, offering perspectives from industry, the GSC and the MGS, provided a comprehensive look at this highly prospective geological domain. Hudson Bay Exploration and Development discussed exploration for volcanogenic massive sulphide deposits in the Flin Flon area. The company has been working with the MGS, the Saskatchewan Geological Survey and Laurentian University on a 4-year research project of the Flin Flon–Callinan–Triple 7 mineralized interval. Strider Resources Limited reported on the gold potential of the east side of Wekusko Lake, an underexplored area with structural similarities to the Snow Lake gold belt that hosts the New Britannia gold mine. GSC insights on the Trans-Hudson Orogen covered polymetallic deposits, the prospectivity of 'pinkstone belts', the nickel potential of ultramafic intrusive complexes in the Lynn Lake greenstone belt, and the tectonostratigraphic framework of the Western Churchill Province. MGS sessions dealt with the evolution of the Paleoproterozoic Trans-Hudson Orogen in western Canada, the gold metallogeny and exploration potential of the Trans-Hudson Orogen and the latest information on platinum group elements in Manitoba.

The final day's sessions presented new work being conducted in the Superior Boundary Zone and recent developments in the Manitoba diamond play. Presentations included:

- an update on the MGS' Superior margin program covering new results from the Superior craton margin projects in the Gull Rapids area;
- the kinematics and implications for gold metallogeny in the Assean Lake and Aiken River deformation zones;
- a reinterpretation of the northern Superior–Trans-Hudson boundary from newly acquired high-resolution aeromagnetic data;
- new data on the Phanerozoic stratigraphy of the Hudson Bay Lowland, focusing on an anomalously thick Quaternary sequence discovered by Foran Mining in the Kaskattama Highlands;

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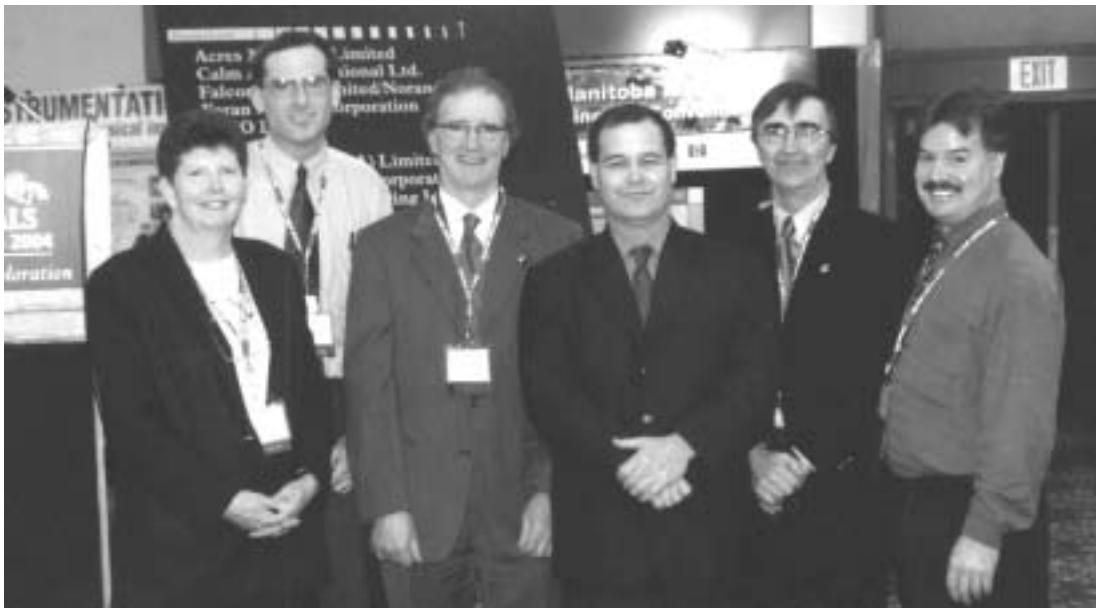

Minister Rondeau with representatives of Manitoba's mining communities.

WAC Networking Evening with Ms. MaryAnn Mihychuk, P.Geo.

By: H.L.A. Brojges, EIT and D.M. Priscu, EIT

On October 13, 2004 the Women's Action Committee of APEGM welcomed Ms. MaryAnn Mihychuk to the first networking event of 2004-2005. Ms. Mihychuk shared some of her stories and highlights of her unique career.

Ms. Mihychuk began her professional career as a geoscientist. As time progressed she changed her career focus and direction, and embarked on a new path in politics, where she served Manitobans for 15 years. She is best known as the elected official that legitimized the internet pharmacy, thereby creating a profitable industry. Prior to the election earlier this year, Ms. Mihychuk served as the Minister of Intergovernmental Affairs and Trade, and the Minister responsible for International Relations Coordination.

H.L.A. Brojges and M. Mihychuk at the University Club.

Ms. Mihychuk spoke about various projects that she was involved with and their wide range of outcomes. She included both positive and non-favourable outcomes, always illustrating the lessons she learned from every experience. She freely discussed the challenges she faced throughout her career and how dedication, hard work and sacrifice enabled her to succeed in achieving both her personal and professional goals. The challenges she encountered allowed her to develop into a strong, confident, and motivated individual, who seems ready, willing and able to rise to any challenge.

Her dynamic and passionate storytelling kept over 30 attendees engaged throughout the entire presentation. The Women's Action Committee would like to once again thank Ms. Mihychuk for sharing her unique career with us. ■

Notice

Spring Iron Ring Ceremony

Tuesday, March 22, 2005
at 8:00 pm

Location: Manitoba Room.
2nd Floor of the UMSU Centre,
U of M, Fort Garry Campus.

Do you enjoy writing?

The Communications Committee is looking for volunteers who would be interested in joining the committee. Members of this committee meet monthly to collaborate, write, proofread and edit articles for *The Keystone Professional*. In order to fully represent the membership, biosystems, electrical and computer disciplines are particularly needed. For more information contact Kelly Mofet at ***kmofet@apegm.mb.ca.*** ■

OUTSTANDING ACHIEVEMENTS AND CONTRIBUTIONS

APEGM encourages members to submit articles that highlight outstanding achievements and contributions of Manitoba engineers and geoscientists.

Carson Templeton, P.Eng.

Reprinted with permission.
Edited by: S.B. Williamson, P.Eng.

Carson graduated from the University of Alberta in 1943 with a Bachelor of Science degree. After graduation he began his engineering career by working on various projects involving the design of highways and pipelines in the Yukon, North West Territories and British Columbia. Form 1948 – 1950, he held the position of Assistant Chief Engineer with the Fraser Balley Dyking Board and became Chief Engineer with the Greater Winnipeg Dyking Board through 1950 – '51. During these years Carson was responsible for the planning, design and construction of dyking and pumping systems covering hundreds of miles.

In 1955 he founded Templeton Engineering Company, Independent Test Labs and Interdisciplinary Systems Ltd. Following the 1950 Winnipeg flood, Templeton Engineering provided the engineering estimates for the Royal Commission that would ultimately conclude that the benefits of a floodway would far outweigh the costs.

After withdrawing from Templeton Engineering Company in 1978, Carson formed a small engineering company specializing in the incorporation of environmental and social consideration in the decision on engineering projects. He helped pioneer the hearing process for environmental impact assessments for the Berger Mackenzie Valley Inquiry as he was Chairperson of the Alaska Highway Pipeline Panel and Environmental Protection Board. All through his professional life, he held a strong conviction that professional engineer practise must embrace environmentally and socially acceptable solutions.

His hard work and dedication to the public and his profession did not go unnoticed. In 1960, the Engineering Institute of Canada presented him with the Gzowski Medal and in 1978 he was inducted as a Fellow of the Institute. That same year, Carson was made an Officer of the Order of Canada, which is our country's highest honour for lifetime achievement and recognizes people who have made a difference to our country.

In the year of his retirement (1982), he was awarded an Honourary Doctorate of Law from the University of Manitoba and a year later, he received a Doctor of Environmental Studies (Honoris Causa) from the University of Waterloo. He was the first engineer to be so honoured.

Carson contributed to the profession for 30 years as an active member of the Association of Professional Engineers and Geoscientists of Manitoba. During this time, he served on many committees including the Consulting Engineers Committee and the Employee Engineers Committee. He was also President of the Association of Consulting Engineers of Canada, Director of the Canadian Good Roads Association and Founder and provisional Chairman of the Environment Committee of the Engineering Institute of Canada.

The Association of Professional Engineers of Manitoba presented him with its Merit Award in 1975, its outstanding service award in 1981, and in 1984 conferred on him its Life Membership Award.

On Nomber 24, 1989, the CCPE Gold Medal was awarded to Carson H. Templeton, P.Eng., in Ottawa. This national award is presented to bestow distinction on outstanding Canadian engineers and to recognize their exceptional achievements, irrespective of any affiliation with a given society, institute or association.

His respect for the Professional Engineers Code of Ethics in both his professional and private life, his courage in espousing his values, his integrity and his scrupulous attitude toward professionalism, earned him respect and admiration from both the profession and the community at large. ■

Target Your Exploration

Continued from page 7

- a look at indicator mineral methods for mineral exploration from initial objectives and methodology to final interpretation and follow-up; and
- the use of Cr-diopside as a kimberlite indicator mineral for diamond exploration.

This year's convention offered two half-day workshops. The Aboriginal Mining Workshop, free to Aboriginal community representatives, attracted 59 participants. Tom Lewis of Hudson Bay Exploration and Development presented an overview of the business of exploration and mining, from the exploration process and financing options to stakeholders' responsibilities and industry opportunities. Chief Jerry Asp of Tahltan First Nation provided the Aboriginal community perspective, based on the B.C. First Nation's successful community development policies and native participation agreements with the mining industry. Tom Lewis, standing in for Colin Seeley of Placer Dome Canada, outlined the challenges and successes in developing the Musselwhite Mine Aboriginal Agreement and the mutually beneficial opportunities derived from the gold mining operation in northwestern Ontario.

The Crown Land Permitting Workshop provided practical information on regulatory issues that are critical to mineral exploration and development. The Fisheries Act was discussed to raise awareness of federal requirements that impact the way mining activity occurs to ensure that it is not harmful to fish or their habitat. Manitoba Conservation provided examples of work permits, general land-use permits, conditions of use and other information requirements to show how mining companies can obtain use of Crown Land in a timelier manner. Manitoba Industry, Economic Development and Mines presented an overview of the province's mineral tenure system and its evolution from a dual system (where surface rights and underlying mineral rights are separate) towards an integrated management framework that will better accommodate the needs and legal rights of all stakeholders.

The convention closed with the Wind-up Luncheon where delegates heard the latest on diamond exploration in Canada, now the world's 3rd largest diamond producer by value. Eira Thomas, President of Stornoway Diamond Corporation, shared her experiences as a diamond explorer in Canada's highly prospective but underexplored north. Thomas's work with Aber Resources saw her participate in two of the largest staking rushes in world history and the discovery of Diavik, the world's richest and Canada's second diamond mine. The talk was as informative as it was entertaining, touching on diamond exploration methods, kimberlite pipe evaluation, mine development, diamond marketing as well as current exploration trends.

One hundred and ninety-six students from 6 of Manitoba's elementary schools also had the opportunity to learn more about minerals and mining at the convention. Students participated in various mineral education activities including gold panning, mineral and fossil collecting, the Roc Doc presentation, a lapidary demonstration, fun with minerals on the Internet and a tour of the exhibit area. The popular mineral education program is now a regular feature of the Manitoba Mining and Minerals Convention. The 2005 convention will be held November 17th to 19th. ■

THOUGHTS ON

Design

...and the issues of failure

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

Failure is not something engineers like to think about. Our responsibility is to protect the public and our goal is to assure that our designs are safe. But we work in a world of assumptions and approximations where we are often not in control of the ultimate operation of our handiwork. Failures, both major and minor, are a fact of life.

Henry Petroski referred to failures as accidental experiments. If we accept this perspective, then it is important that we take the time to study the results of these "experiments" to better our understanding of how things work and, ultimately, learn to be in a position to avoid repeating any given "experiment".

Massive failures are rare enough that they become news headlines when they do occur. Often the spokespersons who offer comment are either politicians, public relations persons or reporters who are quoting politicians/public relations persons. Often a failure results in a "blame game" that often ends up in court. When the issue passes out of the spotlight, and while the lawyers are making their legal points, engineers move in to clean up the mess.

The massive electrical network failure in Ontario and the north-eastern United States of a couple of years ago certainly focussed attention on a less than perfect design. As the initial shock wore off, President Bush interrupted what looked like a session of repairing fence on his Texas ranch to comment on the "antiquated" electrical network.

In Walkerton, four years after the shock of seven deaths and more than 1800 related illnesses, the E. coli contamination disaster resurfaced when the two individuals who were responsible for operating the water system entered guilty pleas. Apparently a rain storm had caused localized flooding near one of the supply wells and the contamination was traced to runoff from a nearby animal operation.

The ice storm in the mid 1990s in Quebec and Ontario, as well as three recent weather related power outages in the Maritimes have put engineering systems to the test, and found them wanting. Again the news headlines asked "how can this happen?" and engineers were quietly called upon to "fix the problem".

Each of these incidents has its own set of unique circumstances that require unique response. Many a pot of coffee has been consumed as those involved have examined the details and put solutions, both short and long term, in place. But for those of us who are distant from the details, are there lessons we can learn?

In all of the cases cited, weather played a major part. Wind, rain and ice, alone or in combination, were front and centre in the cause and effect associated with each case. News headlines used words like "unusual" or "unexpected" in an attempt to "justify" what had happened. But behind the scenes, engineers assign values to these natural occurrences so systems can be sized, bid and built. We accept that extremes associated with these natural occurrences cannot be accommodated when the balance between cost and safety is struck. Consequences of failure are a factor in striking that balance. In addition, the exact nature of the application of these natural loads is often not as well understood as we might wish it to be. In spite of the difficulties, the risks associated with such designs are usually well managed.

A different spin on these failures might be something we simply cannot control, the people factor. In Walkerton, there is no escaping the fact that E. coli found its way into the system. But people were put at risk because the system operators didn't do their job. They failed, apparently intentionally, to maintain critical checks on the system. They were the line of defence that did not work properly.

President Bush's remark about an "antiquated" distribution system sheds light on a different sort of "people factor". If he is right, someone (or a group of someones) made the decision not to reinvest in the system. Sort of like not bothering to change the oil in a vehicle.

It has been suggested that the Quebec/Ontario problem had its roots in the fact that all of the major transmission lines were in a single geographic corridor. They were, therefore, all exposed to the same "extreme" storm. This location decision was made for economic and political reasons, with little or no consideration of the risk this imposed.

In the Maritimes, the initial distribution system failure was the result of a hurricane. Some have suggested that the failed systems were "antiquated" and long past their useful life. Then as one might expect, the repairs following the hurricane were made "in haste". Understandably, timing for a quick fix was the priority. But the two subsequent outages have demonstrated that short-term thinking almost always results in increased long term costs.

Now, maybe these examples are unfair, and if so, I apologize to those who are, or were, involved. However, in each case, decisions were made by persons outside the "design loop" that had serious impacts on the ultimate design. One could argue that these decisions caused the ultimate failures. The systems failed because they were neglected or misused.

In doing design we take into consideration everything that can reasonably be controlled. Our design should also take into consideration factors that cannot be controlled directly, and seek ways to guard against their negative impact. Those who use the results of our designs and those who establish constraints on the scope of our designs can have profound effects on the quality of what we produce. Their "input" needs to be a part of the risk management we call design. ■

Internationally Educated Engineers Qualification Pilot Program (IEEQ)

By: M.R. Friesen, P.Eng.

"He performs very well technically", "…has an unprecedented relationship with the shop floor staff", and "…has meticulous process-related skills": this is what Manitoba Hydro, Conviron, and Palliser® said about IEEQ Program participants they hired into co-op employment terms last summer. IEEQ participants are relative newcomers who immigrated to Manitoba holding engineering degrees earned in their home country and who are currently working toward their P.Eng. registration with APEGM. On October 27, 2004, representatives of the University of Manitoba, government, and engineering industry met for a reception to honour the first cohort of five internationally-educated engineers who completed the IEEQ Program in fall 2004, and to acknowledge the participation of the co-op employers in the program.

The IEEQ Program (profiled in the December 2004 issue of *The Keystone Professional*) offers internationally-educated engineers an alternative to the traditional means of becoming academically qualified for registration as an EIT with APEGM. The IEEQ Program consists of eight months of senior level engineering courses in the Faculty of Engineering in which participants demonstrate and confirm their technical competency, followed by four months of paid co-op engineering work experience with a local employer.

The future looks promising for the first five graduates of the IEEQ Program. Two were hired into permanent engineering positions with their co-op employers. Another two had their co-op assignments extended, and the fifth participant entered graduate studies in his field. By completing the 12-month IEEQ Program, participants are considered academically qualified to enroll as

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The Planning, Development, and Building Fees By-law

On October 27, 2004, City Council approved the Planning, Development and Building Fees By-law. The purpose of this new By-law is to guide the Planning, Property and Development Department (PP&D) in regard to the fees to be charged for reviewing, approving, and inspecting development applications to ensure compliance with the Manitoba Building Code and associated building and development by-laws for the construction and occupancy of all buildings.

As a result of the review, the Department will move from a system of using the declared value of construction to a *service index methodology* to calculate fees for commercial development. Under this *service index methodology* model, the fee charged is based on three factors:

1. The type of building being constructed (based on a National Building Code classification);
2. The size of the building; and
3. Whether the construction will leave the building finished or merely a shell.

In addition, certain fee rates will be adjusted, and several new ones will be added to better reflect the cost of providing services. The new By-law also imposes extra fees for excess plan reviews.

The Planning, Development and Building Fees By-law will take effect February 1, 2005. The planning, development and building fees and charges contained within this By-law will be increased annually equivalent to the Consumer Price Index unless a review indicates otherwise. (All fees and charges contained within this by-law will be reviewed at least once every three (3) years).

A copy of the Planning, Development, and Building Fees By-law may be found online at ***www.winnipeg.ca/clerks/docs/bylaws/bylaws.stm#P*** ■

2004 By-Law Changes

This is notice that the by-law proposal dated November 5, 2004, has been ratified by letter ballot. The results of the letter ballot are as follows:

Ballots Mailed.....3843
Ballots Returned.....636
Percentage Returned 16.5%
Ballots Spoiled.....1

By-Law		For	Against
7.1.1	Practising Member	599	36
7.1.5	Provisional Member	596	39
9.1.9	Provisional Member (dues)	595	39
9.2.12	Provisional Member (dues)	596	39

The new by-laws came into effect on December 13, 2004.

D. A. Ennis, P.Eng.
Executive Director & Registrar

Provincial Engineering and Geoscience Week has been changed to February 25-27, 2005.

Come join us at the main stage in the food court of St. Vital Centre for some fun! See the activities schedule at www.apegm.mb.ca for more details.

NOTE: IMAX Presentation will still be held on Sunday, February 27th at 5pm.

PEO Press Release

New Engineering Web Portal

Engineering web portal is just one of several projects to help international engineering graduates.

A new web portal designed to improve access to licensure for international engineering graduates (IEGs) in Ontario, is one of several initiatives being planned to help integrate IEGs into the Canadian engineering profession and to gain engineering employment. Development of a comprehensive, single-source web site was just one of the 17 recommendations of From Consideration to Integration (FC2I), a three-phase initiative that has been tackling a range of difficulties in licensing and employing IEGs.

The portal will be developed by Professional Engineers Ontario (PEO) which has received funding of nearly $2 million over two years from the Bridging Projects Fund of the Ontario Ministry of Colleges, Training and Universities. It will feature an online mentoring component, a guide to the licensing process and an interactive self-assessment tool.

FC2I is being led by the Canadian Council of Professional Engineers (CCPE) and its members, which includes PEO. FC2I is a three-phase initiative that has been tackling a range of difficulties IEGs face in obtaining a license and employment in Canada. It is fully funded by Human Resources and Skills Development Canada.

"The focus of FC2I is to help immigrants with a background in engineering who want to work in the profession once they are here," said Darrel J. Danyluk, P.Eng., President of CCPE and Chair of the FC2I Steering Committee. "We know they face language and cultural barriers, employment difficulties and challenges in accessing clear information; we looked at each of these areas, as well as the licensing process itself."

In addition to the development of a web portal, other FC2I recommendations included:

- Providing IEGs with a provisional licence once they have met all requirements for licensure, except the one year of Canadian experience. In this way, employers can have full confidence in the IEG's technical and communications abilities. Provisional licences are now available to IEGs in Ontario, British Columbia and Newfoundland and Labrador, with pending legislation in Alberta;
- Determining which elements of the engineering licensing process can be done overseas, to speed the process after IEGs arrive in Canada; and
- Providing clear information about the engineering profession in Canada to IEGs prior to immigration.

"Resolving the issues facing IEGs becoming licensed is complicated and requires an integrated federal/provincial effort. PEO will continue to make key contributions to the FC2I project and we will be sharing our learning and information with the project team and our sister provincial and territorial licensing bodies," said Kim Allen, P.Eng., CEO and Registrar of Professional Engineers Ontario.

"We are pleased that PEO has taken on the web portal initiative," said Marie Lemay, P.Eng., Chief Executive Officer of the CCPE. "This project is the beginning of a comprehensive program to support IEGs."

The FC2I Steering Committee has representation from federal and provincial governments, the engineering regulatory bodies, employers, immigrant-serving organizations, educators, engineers and IEGs themselves. ■

Student Members in the News

APEGM Student Member Awarded

Dan Lussier, a fifth-year mechanical engineering student, is a recipient of the prestigious Rhodes Scholarship. He will receive a full ride from Oxford University for two years, including tuition, books, housing and some spending money. Dan will begin his studies next fall in England.

Lussier, an APEGM Student Member, and the UMES Senior Stick, is in the aerospace program of the Faculty of Engineering. Dan, with a 4.4 grade-point average, is just shy of having a perfect A+ mark.

Dan still hasn't made a firm decision on a field of study in engineering; but, is leaning toward alternative energy – looking at how to use energy more than just how to produce it.

Lussier is very involved with day-to-day Student Council activities and has volunteered with Habitat for Humanity and the St. Amant Centre, a residential and resource facility for Manitobans living with developmental disabilities. He has also been a high school math and physics tutor.

In all, 11 Rhodes Scholarships were awarded this year in Canada.

Lussier will join the ten other scholarship recipients in Ottawa next September to prepare for their journey.

The University of Manitoba has produced 86 Rhodes Scholars – more than any other university in Western Canada and fourth among all Canadian universities. ■

CCPE Press Release

Canadian engineering profession moving forward with foreign credential recognition initiative

Saeed Ziaee, P.Eng., founder and product development manager at Intelligent Engineering Solutions in Toronto knows about the barriers to employment that International Engineering Graduates (IEGs) can face when they immigrate to Canada. Although highly respected as a mechanical engineer in Iran, Saeed was unprepared for the cultural and linguistic barriers as well as the difficulties in gaining recognition for his credentials when he arrived here in 1991. Saeed now shares his perspective with colleagues on the Steering Committee that guides *From Consideration to Integration* (FC2I), a project that has been designed to help clarify the licensing process and integrate IEGs into engineering employment and undertaken by the Canadian Council of Professional Engineers (CCPE) and its members, the engineering licensing bodies.

"We know that many immigrants with a background in engineering want to work in the profession once they are here," says Darrel J. Danyluk, P.Eng., Chair of the FC2I Steering Committee, "but we also know they face language and cultural barriers, employment difficulties and challenges in accessing clear information; we looked at each of these areas, in addition to the licensing process itself."

Phase I of FC2I focused on understanding the IEG experience, examining provincial and territorial engineering licensing procedures, and learning from those who work with and employ IEGs. In Phase II, the Steering Committee analyzed the information, determined where the process of integration needs improvement and began to build consensus around possible solutions. The resulting recommendations include among others:

- Providing accurate and consistent information about the engineering profession licensing process, employment situation and IEG support agencies, prior to and after arrival in Canada.
- Determining and implementing effective relationships between immigrant serving agencies and regulatory bodies to enhance communication and information exchange.
- Providing a single source of engineering information on the Internet for IEGs; do this through the Going to Canada portal which would link to constituent members' sites.
- Providing IEGs with a provisional or temporary licence once they have met all requirements for licensure except the one year of Canadian experience to instil employer confidence in the IEG's technical and communications abilities; Ontario and BC have implemented this recommendation already.

Meetings have taken place with the engineering community and immigrant-serving agencies over the summer and early fall to determine what roles they may see for themselves in implementing the recommendations. It is expected that these recommendations will be put into action in the New Year which will signal the beginning of Phase III.

"Canada has a reputation for engineering excellence," says Saeed, "and as immigrants with an engineering background, we want to help maintain that excellence and to contribute to the Canadian economy; these recommendations will help us do that faster and with fewer complications."

CCPE welcomes your input. This can be done by sending an email to the contact information noted on the project's website: ***www.ccpe.ca/fc2i***. ■

Structural Impact of Wind and Tornadoes

Continued from page 3

Flying or Falling Debris

- A significant factor in all wind-induced damage is the effect of flying debris
- On the Prairies, falling trees are often the main source of damage

Building codes

- Building codes often do not adequately reflect the climatology of a region

In Winnipeg, structures should be built to withstand a wind of at least 130 km/h. Winds of 100 km/h have a return period of only three or four years. Attached garages are a weak point in a house's design and magnify the damage done to a house when struck by high winds, especially if the doors are left open.

The audience was very appreciative of Mr. Anderson's presentation. In particular, they appreciated seeing some of the dramatic film clips showing the effects of winds associated with tornadoes and hurricanes on buildings and other structures.

The Professional Development Committee would like to thank Mr. Anderson for his time in preparing and making this presentation for the APEGM members. We would like to wish him well in his retirement next year. ■

Internationally Educated Engineers Qualification Pilot Program

Continued from page 10

an EIT with APEGM, and they are eligible to submit work experience reports for up to three years of professional engineering work experience from their home countries. Taking into account the co-op term that is part of the IEEQ Program, these internationally-educated engineers may be as little as eight months away from qualifying for a P.Eng. licence in Manitoba.

Another 14 internationally-educated engineers representing mechanical, industrial, electrical, computer, and civil engineering began the IEEQ Program in September 2004 and are currently working through their academic course requirements. These men and women often bring extensive and high-level engineering experience from their home countries. They are motivated and eager to integrate and contribute to the Canadian engineering profession, and will be available for co-op employment terms in May, 2005. The four-month co-op work term is intended to allow participants to gain Canadian engineering experience, to introduce them to a local professional network, and to count toward the one year of Canadian experience required by APEGM for eligibility for the P.Eng. licence.

Co-op employers receive the benefit of the IEEQ participants' recent studies in engineering at the University of Manitoba, including learning the English technical vocabulary of the discipline and Canadian codes and standards that prevail in the field, as well as a new course focused on issues related to cultural integration. In addition, employers can benefit from several sources of potential wage subsidy and a newly-introduced employer tax credit program. The four-month co-op term gives employers an excellent opportunity to assess participants' potential as permanent employees.

To learn more about the IEEQ Program or its participants, please visit our website at ***http://ieeq.eng.umanitoba.ca*** or contact Marcia Friesen, P.Eng, at 474-7873. ■

Pay Your Dues!

Dues have been mailed to all members and MITs. If you have not received yours, please contact the APEGM office as soon as possible.

All payments received in the Association office after February 28, 2005, are subject to the late payment fee of $54.00.

Final Payment Date – March 31, 2005.

ALL MEMBERS OR MITs WHOSE DUES PAYMENTS ARRIVE IN THE APEGM OFFICE AFTER MARCH 31, 2005, WILL BE DE-REGISTERED OR REMOVED FROM MIT ENROLMENT. APPLICATIONS FOR REINSTATEMENT MAY BE MADE IN ACCORDANCE WITH SECTION 24(2) OF THE ENGINEERING AND GEOSCIENTIFIC PROFESSIONS ACT. ■

CCPE CEO's Message

M. Lemay, P.Eng.

The Canadian Council of Professional Engineers (CCPE) sends its condolences to the families and friends of the victims of the South and Southeast Asia tsunami.

Canada's 160,000 engineers stand united with engineers from South and Southeast Asia, as they face the difficult and long-term challenges ahead in rebuilding their country's infrastructure to provide basic services such as shelter, clean water, power and roads.

Canada's engineering community has heard the pleas for help from the many countries affected by this tragedy.

Since the December 26 disaster, RedR (Registered Engineers for Disaster Relief) has already deployed two Canadian members in the disaster area while long-established international chapters of RedR have been able to provide a total of 20 engineers.

In January 2001, CCPE, with the support of its partners ACEC, EIC and CAE, established RedR Canada (Registered Engineers for Disaster Relief Canada) as a non-profit organization. RedR Canada provides a vehicle for Canadian engineers to contribute to disaster relief efforts around the world.

RedR Canada provides opportunities for Canadian engineers to make practical contributions that assist the humanitarian relief efforts in disaster-ravaged regions.

RedR relieves suffering in disasters by selecting, training and providing competent and efficient personnel to humanitarian aid agencies worldwide. Members provide ground-level relief agencies with technical assistance vital to restoring the everyday lives of affected communities.

According to RedR Canada's Executive Director Kirk Thompson, RedR Canada managed to grant specific requests from Save the Children and expects more requests to come from its other NGO clients, including CARE Canada, Oxfam (Canada and Québec), Red Cross, *Médecins sans frontières,* World Vision, and *Le Centre d'éducation et de coopération internationale.*

While engineering experience is key, so is experience in working for disaster relief overseas. Although the organization has been blessed with literally hundreds of volunteering engineers, they will be focusing their recruitment on those with previous experience in disaster relief efforts.

RedR Canada's readiness to answer the call for help confirms Canada's desire and ability to provide relief and assistance to countries in need.

Much more can be done with proper strategies in place. Although a young organization, RedR Canada has already 50 engineers on its registry, more engineers can be trained to work in those situations.

Canada could and should become a leader in international disaster relief by working with associations like RedR Canada to pre-qualify engineers for quicker response.

CCPE will be monitoring any discussions between the federal government and RedR Canada on this issue.

Should you want to apply to be member of the Registered Engineers for Disaster Relief, visit their Web site at ***www.redr.ca*** to find out more.

RedR Canada has posted a special tsunami relief donation page on its Web site, which will enable funds to be matched one for one by the federal government. RedR Canada has pledged to devote all funds earmarked for the tsunami relief effort to Canadian Save the Children, an NGO working in the area and which has been particularly responsive to RedR Canada's presence.

Please visit the RedR Canada Web site at ***www.redr.ca/*** and consider how you can contribute to disaster relief efforts. ■

APEGBC/ASTTBC Merger Proposal Called Off

From the November/December 2004 issue of Innovation
The journal of the Association of Professional Engineers and Geoscientists of BC

On December 2, 2004 APEGBC and the Applied Science Technologists and Technicians of BC (ASTTBC) issued a joint statement as follows:

The proposed merger of APEGBC and ASTTBC has been called off.

After feedback from members of both groups, as well as consultation with government both Associations agreed that it was not in the best interests of their respective members or the public to continue working towards a merger.

APEGBC and ASTTBC have a long-standing and respectful working relationship and will continue to work together on issues of mutual interest to both Associations and their members.

Over the years, APEGBC and ASTTBC have periodically explored ways of working closer together and in 2000 the respective Presidents decided the time was right to examine the concept of a merger of the two Associations.

A Joint Task Force, created in 2001 to explore the feasibility and options of a merger, proposed the "one Act/one Association" model, the concept being to merge the two Associations under one common Act with grades of membership and a common Code of Ethics. Under this model, a definition of scope of practice for technologists and technicians would be established, and Council-approved practice guidelines would define specific areas of unsupervised practice for technologists.

The results of a member survey in 2002 indicated that members supported exploring the concept further. The Joint Task Force proceeded to develop a merger implementation plan that was completed in July 2002 and approved by Council.

In October 2002 APEGBC approached our Minister (Advanced Education) for support for the legislative changes necessary to effect the merger. Although supportive, the Minister recommended that APEGBC obtain member input via a referendum, which was held in May 2003.

Subsequently, a proposed Act was drafted and APEGBC met again with the Minister in September 2003. While still supportive, the Minister advised that our proposed Act was too long and required a more modern format like the recently approved Foresters Act. After several months of work on the proposed Act, APEGBC was informed in March 2004 that our Act would not be on the 2004 legislative agenda.

This delay gave both APEGBC and ASTTBC the opportunity to grapple with some key issues.

While a great deal of effort had been expended on some of the details of the proposed merger (practice guidelines, organizational structure, etc), no formal agreement existed between the two Associations and some significant issues were unresolved. In addition, member feedback to APEGBC indicated that a number of their concerns had not been addressed.

At a special Council meeting convened in May 2004 to discuss the situation in detail, Council reviewed the key issues:

- scope of practice for technologists
- governance of the new Council
- feedback from members and stakeholders, and
- projected costs and timelines.

As a result of this meeting, the practice guidelines were withdrawn and the Association officially informed the Ministry that we would not be seeking a request for legislation this year.

At the June 2004 Council meeting the issue was discussed further and a small task force was formed to see if it could resolve the key issues by November. All other activities relating to the merger were put on hold.

Predictably, the proposed merger surfaced as a key election issue in the fall and the results in October 2004 sent a clear message to APEGBC. At its first meeting in November 2004, the new Council passed a motion to call off the proposed merger as it was not considered to be in the best interests of APEGBC members.

Council has, however, reaffirmed the long-standing and respectful relationship between APEGBC and ASTTBC, and its intention to continue to work with ASTTBC on areas of mutual interest to both Associations. ■

NOTICE

Nominations for Election to the APEGM Council

The Nominating Committee of APEGM requests submissions from members and members-in-training, of the names of members who they consider to be qualified to participate in the governance of the Association and who might be willing to so serve the engineering and geoscience professions in Manitoba. There will be four professional engineer positions and one professional geoscientist position to be filled as of October 2005.

The Committee will consider recommendations received by the secretary up to the close of business on March 31, 2005. In the event insufficient recommendations are received, the Committee may exercise its prerogative to put forward a slate of candidates for election that is equal to the number of positions to be filled. Persons submitting a recommendation are required to obtain the consent of the professional member being recommended, preferably in writing, and to provide a curriculum vitae or biographical sketch.

Members can also be nominated directly and be on the ballot for the 2005 election by the completion of the prescribed nomination form. The form can be obtained from the Association office or on the website at ***www.apegm.mb.ca/practice/infomem/nominations.html.*** The consent of the nominee must be obtained. To be included on the ballot, candidate nominations must be received in the Association office on or before the close of business on Friday, September 9, 2005. Each completed nomination form must be accompanied by the nominee's resume and platform. Resume forms are also available from the Association office.

David A. Ennis, P. Eng.
Secretary

Coming Events

APEGM Evening of Recognition

APEGM's Evening of Recognition reception welcomes new members of APEGM to the professions and honours the year 2005 award recipients. Aftab Mufti, P.Eng. (Merit Award); James Blatz, P.Eng. (Early Achievement Award); Dawn Nedohin-Macek, EIT and Jennifer St. Laurent, EIT (Professional-in-Training Awards); and City of Winnipeg (Achievement Award) for the Esplanade Riel (Provencher Bridge).

Tuesday, March 1, 2005, 7:00 p.m. - 9:00 p.m.
Niakwa Country Club, 620 Niakwa Rd.
$5.00

All members, guests and friends of the professions are welcome. Tickets are available through the APEGM office and at the door.

Attention MITs!

NATIONAL PROFESSIONAL PRACTICE EXAMINATION: April 18, 2005

Deadline for application: March 21, 2005.

Application form available at APEGM website:
www.apegm.mb.ca/register/geninfo/ppeinfo.html

Looking for Volunteer Service Opportunities?

This Association has created a list of MITs interested in having their e-mail address circulated in response to requests for volunteers. If you would like your name added to that list, please call or e-mail Jenny (***jborecky@apegm.mb.ca***) at this office, and she will add your name to the list.

APEGM

PROVINCIAL ENGINEERING AND GEOSCIENCE WEEK

2005

AN EVENING OF RECOGNITION

To Welcome New Members of APEGM to the Professions

To Recognize the Recipients of the APEGM Awards for Merit, Early Achievement, Achievement; and Professional-in-Training

To help Celebrate Canada's National Engineering Week

Date: Tuesday, March 1, 2005
Time: 7:00 p.m. to 9:00 p.m.
Place: Niakwa Country Club, 620 Niakwa Road

Tickets are available at the APEGM office and at the door at a nominal cost of $5.00 each
Members, Guests, and Friends of the Professions Welcome!

NATIONAL ENGINEERING WEEK / SEMAINE NATIONALE DU GENIE