THE MANITOBA

Professional Engineer

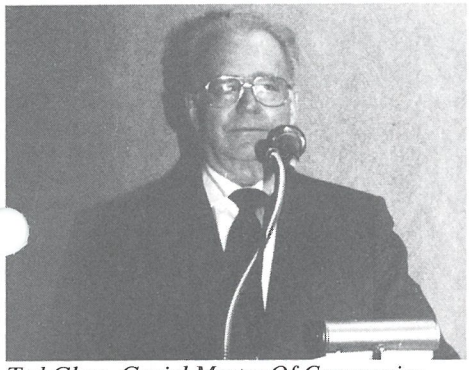
ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF MANITOBA

April, 1991

Another Successful Engineering Student Dinner

By: B.R. King, P.Eng.

On Thursday, February 7, 1991 another successful Engineering Student Dinner was held at the International Inn. The event was organized by the Institute of Electrical & Electronic Engineers with the cooperation of the University of Manitoba's Faculty of Engineering, the Institute for Technological Development, Teshmont Consultants and Carte International Inc. The evening's Master of Ceremonies – one of the Grandfathers of Engineering, Ted Glass – opened the evening by welcoming all students and guests. Following his remarks, Dr. Witold Kinsner briefly outlined the background of IEEE, its goals and its present standing as the largest technological organization in the world – boasting a membership of over 300,000 members. He strongly encouraged all students and electrical engineers to become actively involved with the IEEE.



Ted Glass, Genial Master Of Ceremonies

Ted followed by pointing out that the dinner offered a unique opportunity for students to socialize and meet members of the professional engineering community and, of equal importance, to possibly obtain a "job".

Following his remarks Mrs. Elaine Johnson, representing the Professional Engineers Wives Association, presented four awards: the Dean E.P. Featherstonhaugh Award to Ali Nasser-Ronjbar - a second year electrical engineering student; the Dean A.E. MacDonald Award to Penny Ann Berard - a third year mechanical engineering student; the Professional Engineers Award to Jack Yu - a third year industrial engineering student; and the Professional Engineers Wives Award to Adam Barrett - a third year mechanical engineering student.



Ken Holland, Guest Speaker

APEM President Bill McDonald then gave a welcome to all students on behalf of the Association. This was followed by greetings from Dr. Garland Laliberte, Dean of Engineering at the University of Manitoba, and a thank you by Michelle Stainton from the University of Manitoba Engineering Society on behalf of the students for the invitation and opportunity for students to attend this dinner.

Ted handed over the responsibility for next year's dinner to the Canadian Society of Civil Engineers, thus giving them the needed time to do the necessary planning. He emphasized how fortunate he was to have had such an outstanding group of individuals to assist him in the preparations for the dinner this year. After he thanked all those who assisted in the planning of the evening's activities, he handed over the evening to the guest speaker.

The guest speaker, Mr. Ken Holland, President and CEO of Carte International Inc. gave a feature presentation entitled "Corporate Culture and the Professional Engineer".

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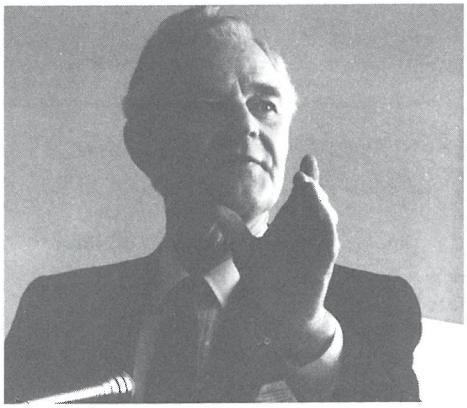
Science & Technology and Competitiveness

By: M. Paryniuk, P. Eng.

The Honourable William C. Winegard, Minister for Science, Industry Science and Technology Canada, visited Winnipeg on February 13, 1991 to speak on "Science and Technology and Competitiveness". The meeting was similar to those held in other Canadian centres. The topic attracted a good number of APEM members representing a broad spectrum of Manitoba industries.

Mr. Winegard began his presentation by referring to Canada as a "high-cost country selling low-cost goods". He pointed out that Canada's major export items have traditionally been, and continue to be, raw commodities such as wheat, pulp and paper, wood, etc. In contrast, our greatest high-technology export item of comparable significance is automobiles. As a result of our continued dependence on commodity items, Canadian complacency has caused the trade balance for high technology export products to steadily decline. To this extent, it behooves Canadian industry to reassess its export strategy and become more involved in higher technology/higher value, exportable items if there is to be any hope of future survival in the global market place.

Mr. Winegard recognizes the fact that greater emphasis is required in research and development.



The Honourable William C. Winegard

Canadian industry is far behind most of its competitors in its amount of Research and Development (R&D) spending by the private sector. This lack of R&D activity has led to a shortage of new technology and as a result, Canadian industries regularly import required technologies rather than develop them domestically and export to world markets. Mr. Winegard discussed the market

Continued on page 5

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April, 1991
Published by the Association of Professional Engineers of the Province of Manitoba
530-330 St. Mary Avenue
Winnipeg, Manitoba R3C 3Z5
(204) 942-6481 Fax (204) 942-3718

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Women in Engineering - The Prairie Forum

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

The place: Regina. The date: February 26, 1991. The Subject: "Breaking Barriers and Building Bridges" for women in engineering. The reason: to apprise Dr. Monique Frize, P.Eng. and her Canadian Committee on Women in Engineering of the experiences and initiatives with respect to female engineers of various corporations, agencies, institutions and individuals throughout the three prairie provinces.

The day commenced at 8:30 a.m. with a bus ride to the Centre of the Arts. The morning session's opening address was delivered by Saskatchewan's Lieutenant - Governor Sylvia Fedoruk, who expressed the widely-held opinion that the problem of the low percentage of females in the engineering profession begins with the science curricula in public schools. Her suggestion that a name change was due for the Engineers' Wives Association received thunderous applause from the approximately 200 delegates - one-third of whom were males.

The next speaker was University of Manitoba Associate Vice-President Marion Vaisey-Genser, who presented a number of statistics on male/female education trends, described the Canada Scholars' Programme, and commended the Committee on its action in helping build Canada's desperately needed science and technology human resource base.

Monique Frize, proud to have grown from an anomaly to a minority, then provided a commentary on the status of women. She cited three sources which prove that practising female engineers are not promoted as often as their male counterparts; told the story of a woman engineer who had been told recently, in front of two dozen men, that she would never receive a particular promotion because she would "cramp" the boss' "style", and none of the men had reacted; and stressed that a woman - friendly work environment would be a more friendly environment for men, too.

A panel discussion followed.

Those in attendance learned that studies have shown that young boys always receive more attention in the classroom, while girls are encouraged to "be quiet;" that the engineering faculty and students at the University of Alberta are "cleaning up" the image of the engineering students and taking initiatives to attract women to the faculty; and that Petro-Canada has an extensive gender-equity programme, including in-house day-care and generous maternity as well as paternity packages.

Wayne Clifton, President of APES, wrapped up the morning session with the observation that this Forum was an examination of the laws of nature and nurture, and that the men were now struggling to catch up with the women in terms of nurturing, sensitivity and communication.

The afternoon session comprised the presentation of briefs - 38 in total - from female engineers, male engineers, students, educators, corporations, employment equity representatives, government representatives and anyone else who had anything to say on the topic of women in engineering. Each speaker was limited to five minutes – which was unfortunate, from the point of view of information exchange (although everyone was invited to request copies of the written briefs!)

The Forum ended at 10:00 p.m. It had been a full day, and a successful one, according to Dr. Frize. (This was the fourth such forum - and the Prairie provinces had surpassed Vancouver, Montreal and Ottawa in terms of the number of briefs presented, the number of delegates from industry, the amount of sponsorship from industry and the number of male delegates in attendance!)

The information gathered at this, and the other five forums will be summarized and presented for discussion at a national conference in Fredericton, New Brunswick in May, 1991. It should be an interesting session! □

NEW MEMBERS REGISTERED JANUARY & FEBRUARY, 1991

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H. Moheb
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G.C. Baker (N.S.)
D.W. Chambers (Alta.)
R.P. Fallowfield (Ont.)
F.E. Hann (Ont.)
P.S. Lamba (Ont.)
J.A. Nelson (B.C.)
B.R. Pluhator (Sask.)
L.A. Richards (B.C.)
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O. Beeman (Oregon)
J.C. Draper (Que.)
K.K. Ghosh (Ont.)
D.L. Killam (B.C.)
A.Y.H. Luk (Alta.)
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D. Pristach (Ont.)
C.S. Seaby (Ont.)
A.A. Vandertol (Alta.)

WITH DEEP REGRET THE ASSOCIATION RECORDS THE PASSING OF:

A.J. Pluhar

ENGINEERING GRADUATE MEMBERS JANUARY & FEBRUARY 1991

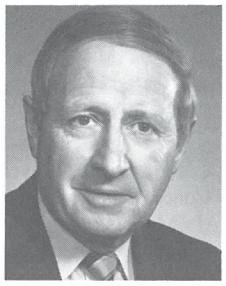
P.R. Barsalou
D.K. Roth
J.W. Davidson
R.R. Rousseau

WE HAVE LOST CONTACT. CAN WE HAVE AN ADDRESS?

Y. Bourlas
D.B. Davidson
J.J.H.P. Gagne
F.H. Lefebvre
A.R. MacLean
M.E. Sliwinski
J.S. Williams
M. Cox
N.I. Faruqui
M.C. Lai
J.W. MacLaren
J.A.W. May
L.B. Winnicki
J.W. Yee

President's Message

Wm. McDonald, P. Eng.



TQM and Engineers

We have been hearing and reading more and more about Total Quality Management (TQM) in business, industrial and educational papers and journals recently. In most cases, the articles relate glowing accounts of progress made in Japan and the United States. It was especially interesting and enjoyable to hear one of our own, Ken Holland, P. Eng., CEO of Carte Electric Ltd., guest speaker at the recent Engineering Students' Dinner, relating the experiences of a Winnipeg manufacturing company with TQM.

Another Manitoba engineer who is leading the way by using the Deming Management Method is Lorne Ames, P. Eng., President of International Nickel's Manitoba Division in Thompson. Both Mr. Holland and Mr. Ames have many interesting stories of successes involving their operations and how the team approach to management has solved problems previously deemed insoluble by managers doing things "the way we have always done them".

Some of the concepts developed in TQM and advocated in the Deming method are: increased worker responsibility with less supervision and decisions made on the shop floor; all levels of the organization responsible for quality – "quality consciousness"; team problem-solving and the use of team brainstorming sessions; eliminating defects, then eliminating levels of inspection; buying on the basis of quality rather than always the lowest price; using statistical methods and analysis, formalizing training programs and eliminating fear.

The story of W. Edward Deming, the American industrialist who went to Japan in 1950 and revolutionized Japanese quality and productivity, is fascinating. It is said that Dr. Deming's philosophy and methods were largely responsible for the success of Japanese industry today. Now, 40 years later, Dr. Deming's methods are spreading to North America.[1]

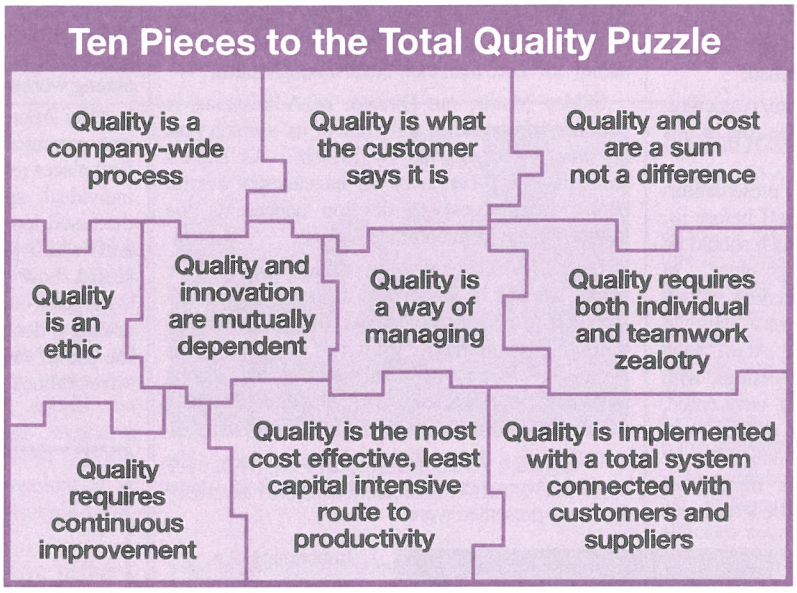
In a recent issue of the Engineering Times, the magazine published by the National Society of Professional Engineers in United States, a front page story was headlined "Quality Guru Engineer Pursues Quiet Revolution". This story outlines some of the experiences and philosophies of Armand "Val" Feigenbaum, President and CEO of the General Systems Company Inc.

Feigenbaum, as well, has been at the game a long time. He published the first edition of his book "Total Quality Control" in 1951. Like Deming, he has worked for many foreign companies in the Far East, Brazil, Argentina, Mexico and several of the European nations, and is now trying to sell American Companies on the concept, advocating that widespread implementation of TQM by American organizations should result in a 7% increase in the gross national product.

The ten pieces to the Total Quality Puzzle developed by General Systems Company Inc., provide us with a thought-provoking model on quality. We at APEM may be well advised to keep these precepts in mind as we plan the future of the Association.

The philosophy of General Systems Company Inc. supports the precepts outlined by quality experts like Dr. Deming and Joseph Juran, and supports the tenet that "an organization's economic health is dependent on its ability to offer to increasingly demanding customers defective free goods and services which are less costly to provide than those that require constant inspection and rewards." Dr. Deming puts it this way: "The biggest problems are self-inflected, created right at home by management that are off course in the competitive world".[2]

The contribution of Canadian engineers in this area should not go unnoticed. When he was asked how the Free Trade Agreement might affect Carte Electric, Mr. Holland replied, "Be the best at what you can be and the best at what you do, and you won't have to worry about Free Trade." These are challenging concepts that face us in changing times, but leadership demonstrated by our fellow engineers can show us the way. □



Source: General Systems Company, Inc.

1. *Gitlow, Howard S. and Shelly J. The Deming Guide to Quality and Competitive Position*
2. *Walton, Mary - The Deming Management Method*

Predicted Shortfall of Engineers

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

On September 10-11, 1990 a conference entitled "Engineering the Future: Outlook on the Profession" was held in Ottawa to develop action plans in regard to a projected shortage of engineers which is expected to develop by the mid-1990's. Some highlights of presentations made at the conference are:

- Canada is facing a declining university-age population; Canada's 22 year-old population (average undergraduate age) will decrease by 25% between 1984 and 1995.
- All other industrialized nations predict and fear a shortage of engineers and scientists as well.
- The forecast is for a 45% increase in demand for engineers by the year 2000, with an increase in supply of 10%.
- Women still only comprise 1/8 of the engineering student body; attitudes are a problem in attracting women to engineering.
- An outlook model documented in "Engineering the Future" (CEAB & EIC) predicts chemical engineers to stay in balance until 1995, when demand will begin to outstrip supply; a shortfall of civil and mechanical engineers is to grow steadily; slowest growth is predicted in mining and agriculture, while largest is in petroleum.
- In the US a congressional task force estimates a shortfall of 560,000 engineers and scientists by 2000. Currently, half the new Assistant Professor faculty and doctoral students are foreign nationals, and 1300 faculty positions are vacant.
- The ability to complete an engineering program is hampered by lack of pre-university math and science skills; many elementary school teachers are afraid of math and science, and entered elementary-level teaching to avoid math and science.
- Representation of engineers on boards of directors in Japan is twice as high as in the US; this is giving Japan a competitive advantage in the high-technology age.

Seven workshops were held to allow discussion and development of recommendations in the following categories: education (pre-university, university and post-university levels); marketing; manpower usage; and lobbying.

At the end of the conference, the participants unanimously endorsed a resolution which, among other things, stated that: "a commission to be called the Canadian Commission for the Advancement of Engineering be established to advise, coordinate and monitor the implementation of the recommendations of this conference." □

Applied Professional Development

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

It's always nice to see an organization practising what it preaches. In this case, it was an exercise in professional development - bringing together the chairmen of the Association's 22 standing and ad hoc committees, Council and the Association's staff over lunch at the Wildewood Club.

One might be inclined to say, considering the average age of the men sitting around the table, that there would be no need for such a meeting but, unfortunately, approaching retirement does not guarantee that, suddenly, a man becomes a competent chairman. For the younger men, it was a nice piece of professional development along the management branch of their professional careertrees.

Following a welcoming by President McDonald, our new Executive Director, Dave Ennis, introduced those present, and then reviewed the purpose of the various committees and their structures.

Bill Mackenzie, our former registrar, then took us through the points that lead to an effective committee while Councillor Pat Feschuk outlined the points that make an effective chairman.

Because each committee has a liaison councillor, Councillor Ray Hoemsen reviewed the role of this person.

Dave Ennis concluded the formal presentations by putting the involvement of the staff before us, along with some facts and figures which should be of interest to those of us who "pay the piper". In 1990, there were 195 committee meetings, which approaches four per week. The staff have to contend with these as well as the AGM each October. 1560 announcements of meetings, with an equal number of agenda packages, were typed, assembled, printed, packaged, etc. In addition, one must remember the follow-up telephone calls, the preparation and proof-reading of the minutes of each, the time involved in, and care the ladies give



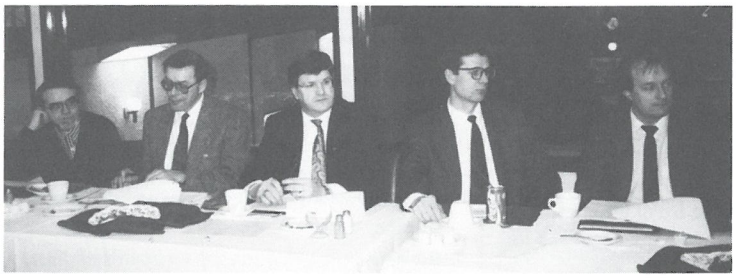
The Leaders: (left to right) President Bill McDonald, Executive Director Dave Ennis and Vice-President Pat Feschuk.

to, setting out and cleaning up after the lunches (which cost some $15 000 last year, and were much appreciated by this committee member!), and the meetings that had to be postponed (about 5%) with the extra work they entail, and one begins to appreciate Joan, Heather, Elaine, and Donna (listed in reversed alphabetical order of the first initial in their name) for more than their never-failing charm!

Shirley Matile, out Director of Admissions, is both one of our ladies and "one of us", which puts her into a category all by herself. As Dave's assistant, I find her to be an increasingly helpful person when questions develop concerning the tasks that arise from committee work.

Dave Ennis concluded the presentation with five points, the last of which was a plea to committee members to FAX or telephone if they cannot attend a meeting (the reminder for which is carried on all Notices of Meetings). (In spite of this, eleven members had not responded to the announcement of this luncheon meeting!)

Following these formal presentations, the members were then asked to comment. Some items that were presented were:



The Followers: (left to right) Ken Jardine; Bob McKibbin; Past President, Ken Buhr; James Hildebrandt and Murray Vanderpont.



Some more Followers: (left to right) Joan McKinley, Carl Anderson, Don McIntosh, Bob Steele and Dennis Whittaker.

1. Importance of a vice-chairman and how to use him effectively.
2. Period of membership on a committee.
3. Problems of recruiting committee members.

My suggestions arise from the preparation of this report. The first is that the material presented to this meeting be assembled into a pamphlet for the use of future chairmen. The second is that this meeting be repeated, for the general membership and, in particular, for the younger members, at one of our Professional Development Breakfasts. □

Professionalism Defined

By: T. Pizzey and K. Mason

A Professional Development Seminar entitled "Concepts in Professionalism" was hosted by the APEM on February 15, 1991. The conference was well-attended and enthusiastic audience participation from a combination of both younger and experienced engineers was evident. Group discussions and question periods followed each of the seven presentations.

The seminar was opened by Bill Mackenzie with a presentation on "The Engineering Profession Act". The presentation included a poetic description of engineering, explained that the Act is present to protect the public, and outlined the basic principles of the Act. These basic principles require that engineering be performed by professional engineers in accordance with a Code of Ethics.

Bill McDonald, current President of the APEM, outlined the "Role of the Association". Topics of discussion included the anticipated shortage of engineers in the future, and the association's role in generating interest in the engineering profession among women in particular.

"The Appropriate Use of the Engineering Seal" was presented by Bill Newton. The Engineering Seal places responsibility for the document with the individual applying the seal. The presenter discussed topics such as how the courts view the seal, which documents should and should not be sealed, how many seals should be applied to a document, and who should be responsible for sealing a document. Both points of law regarding the use of the seal and the ethical use of the seal were outlined in the discussion.

Continued on page 7

– Notice –

Payment of Outstanding Fees and Deregistrations

All members who had not paid their 1991 Annual Fees by February 28, 1991 are reminded that, if all outstanding fees and penalty charges are not received **in the Association office** on or before June 30th, 1991, their names will be removed from the register and they shall cease to be members. No exceptions are allowed under the Association By-Laws.

Those who are deregistered for non-payment of fees can apply for reinstatement. Each applicant will be required to pay all fees owing for 1991, pay a reinstatement fee, write and pass the Association's Professional Practice Examination, and provide Council with a satisfactory explanation as to why he or she allowed the membership to lapse. □

Professional Development

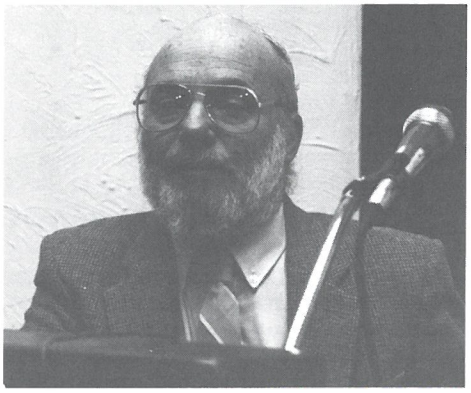
Dorks and Human Behaviour

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

"No, Virginia, dorks do not come from Dorking. If you had been up at seven at the Viscount Gort on January 22, you could have seen forty-three of them for yourself listening to Dr. Stuart Kaye addressing the Professional Development Committee's breakfast meeting on The Human Behaviour Factor in Engineering."

Poor sleepy-headed Virginia, and those of you who missed this meeting, too; it was a challenging talk and delivered, sans electronic gadgetry, so that everyone could hear. Thank you, Dr. Kaye. In fact, he delivered his points so quickly, and there was so much material, that this was one talk where the video camera will show its worth. I address you to The Office to arrange to borrow a copy.

Dr. Kaye was attempting to show us what "behavioral science is all about". Since it deals with human behaviour, which is subjective, learning about the multitude of behavioral characteristics depends upon well-planned questionnaires and an appreciation of the statistical distributions that result. One wonders if the probability and statistics being studied by our Engineering students today are preparing them to better appreciate the work of men like Dr. Kaye than can our senior engineers.



Speaker – Dr. Stuart Kaye

Dr. Kaye made use of the "black box" concept in developing his theme. It is a concept with which, as a non-electrical type who is an amateur radio operator, I am all too familiar. If, as our speaker intimated, we are to eliminate the black-box mentality from within our profession, then we must ensure that our members have the necessary training in the fundamentals of science and mathematics. It is fortunate that Past-President Laliberte, now Dean of Engineering, was in the audience to hear Dr. Kaye charge that one of the main textbooks used in the recently-formed Industrial Engineering programme is "too much black-box".

"Why is everyone an expert in psychology?"

"Science is the only show in town."

"What is the alternative to Science? There is none."

"Human behaviour is subjective. That is what Behavioral Science is all about."

"It is very difficult to develop a questionnaire."

"Engineers fail to consider human-behaviour issues in their designs." □

Student Dinner

Continued from page 1

He pointed out that the changing culture, which is turning the corporation upside-down, is having dramatic effects on engineers. This total invasion of management is transforming managers into facilitators where intermediate levels of supervision are eliminated and training becomes a continuous activity. Among these changes, people are becoming empowered (questioning executive policy) which (and he used examples in his own company) has resulted in the development of an ardent sense of teamwork and correspondingly increased capability.

Changes in manufactureability were outlined, where customers define their requirements and quality and "just in time" deliveries are the rule and mission. Such changes have reaffirmed the necessity for continuous training of both management and employees.

In summary, Mr. Holland stated that issues such as the environment, government regulations, labour law and human rights legislation will continue to have profound effects and changes in our culture. Big changes have taken place in the past few years. However, using the strength of the whole organization, he emphasized, those who can accept those changes and adapt will be successful.

The evening was an overwhelming success. It reemphasized the need to ensure that our professional body continues to show its support to the engineering students. □



Left to Right: Garland Laliberte, Michelle Stanton, Ray Hoemsen and Andrew Small.



Left to right: Witold Kinsner, Steve Onyshko, Elaine Johnson and Ken Holland.

Science & Technology...

Continued from page 1

effects of R&D by referring to the textile and furniture industries, which have been slow to adapt leading-edge technology and consequently are now encountering difficult times within the global market. In contrast, the transportation, aerospace and electronics industries have been most aggressive in incorporating new manufacturing technologies, resulting in success in the international marketplace.

In reference to government support for R&D, Mr. Winegard stated that the Federal government allocates approximately the same proportion of its Gross Domestic Product (GDP) to R&D as Japan and Italy, but less than France and Germany. The United States proportionally spends less on civilian R&D, but considerably more on defence R&D.

Mr. Winegard concluded his presentation by discussing the responsibilities of both private sector and government in promoting the awareness of science and technology. A unified commitment from these agencies will be essential if Canada is expected to maintain a field of qualified engineers and scientists capable of dealing with the technical issues of the future. □

– NOTICE –

APEM Annual Golf Tournament

Date: Thursday, June 6, 1991

Place: Carman Golf Club

Mark Your Calendar!

Manitoba Engineer Attends Montreal Forum On Women In Engineering

By: T.V. Murray, P. Eng.

The Canadian Committee on Women in Egineering was established in early 1990 to study the real and perceived barriers to women in engineering. The mandate of the committee was to develop strategies for encouraging women to enter engineering and to improve the environment for women already in engineering. To achieve this mandate, the committee sponsored a series of regional forums for educators, students, employers, engineers and others to express their concerns, experiences and recommendations on these matters. Results from these forums will be presented at a national conference entitled "Women in Engineering: More Than Just Numbers" to be held in Fredericton, N.B., May 1991.

I had the opportunity to attend the forum entitled "Barriers and Bridges for Women in Engineering", held in Montreal on January 29, 1991. The forum was well attended by media, students and engineers (both male and female). Several educational institutes were represented, including Laval University, Concordia University, Ecole de Technologie Superieure and Ecole Polytechnique. Female engineers representing AECL Research, CN, Defence Research Valcartier, Hydro-Quebec and SOQUIP also attended and presented briefs.

A total of 23 briefs was presented. Micheline Bouchard, P. Eng., Vice-President, Marketing for DMR Group Inc. and Jeannine David-McNeil, Professor, Ecole des Hautes Études Commerciales, gave keynote addresses for the afternoon and evening sessions respectively.

Briefs presented at the forum fell into three main categories. Firstly, several female engineers, such as myself, presented personal perspectives on why we chose a career in engineering, how we felt about our working environment and what suggestions we had for encouraging more females to enter engineering. Secondly, several speakers represented university students' groups and faculties. These speakers concentrated on what their respective groups are currently doing to increase the enrollment of female students in engineering, and to retain female students once they are enrolled. Speakers representing industry presented information on what their companies are doing to attract female engineers and on the difficulties encountered in achieving employment targets.

A few common issues were discussed in several of the briefs. Speakers expressed concern over the predicted shortage of engineers and scientists in Canada. Since nearly one-half of the population eligible to enter these areas has been largely disinterested in the past, it is felt that this is an untapped resource. Persuading women to enter engineering will require a concerted effort on the part of educators and the profession alike. In order to attract more women into engineering, they must be encouraged in the areas of science and mathematics while still in school. All students should also be encouraged to consider non-traditional careers. Several speakers emphasized that these ideas should be cultivated at the elementary-grade levels to ensure that the interest is well-developed by the time the students reach high school.

It was also suggested that the organizing committee should speak directly with high school students. Myself and other female engineers have already made our choice. I enjoyed my years as an engineering student and I am very happy to be working as a professional engineer. But what about all of the women entering Business, Law, Nursing, ...why are they not choosing engineering?

A final concern which was raised was that of the image of engineering. The low-key approach of the profession in the past has perhaps hampered enrollment. If students are not aware of what engineering is about, then how can we expect them to choose it as a career? Engineering should be publicized more. The profession must become more visible and must be promoted in a positive light in order to attract more students. The controversy surrounding engineering students' newspapers should be replaced with coverage of engineering accomplishments. The reputation of engineering schools has been tarnished over the years. While this reputation may be appealing to some of the young men entering our engineering schools, it may be offensive to women considering the profession.

In summary, the forum was both interesting and thought-provoking. To increase the number women entering engineering will require a change in the image of not only our engineering schools but the profession as a whole. Everything will not change at once, but if we keep chipping away at the problem, we are bound to make progress. □

Making Subdivisions Transit-Friendly

By: V. Cherian, P. Eng.

The City of Winnipeg Transit Department recently published a document entitled "Planning and Building Transit-Friendly Residential Subdivisions". The booklet has been prepared as a reference document for developers, urban planners, engineers, architects, and anyone involved in subdivision design and plan preparation. The document outlines the wide-ranging benefits of public transportation that accrue not only to the residents of new subdivisions but also to the community at large. The key requirements for the effective delivery of public transit services to the new communities are discussed with examples and illustrations.



At the City level, transit concerns about subdivision plans are now addressed through the Transit Department's participation in the City's subdivision approval process. Although this process works reasonably well, there is room for improvement. A major concern is the lack of opportunity for transit input prior to the submission of preliminary plans for approval. By the time a subdivision plan is presented to the various city departments for comments and recommendations, many of the in plan's "elements" are fixed and developers are naturally reluctant to make changes. This is understandable as considerable design effort is expended prior to submitting a preliminary plan to the city. Through the circulation of this booklet amongst developers and planners, The Transit Department is hoping that the public transportation requirements will be incorporated at the initial phase of the subdivision design process.

The booklet explains in detail how some subdivision plan decisions not only make it easy for the residents to access and use transit service but also allow the delivery of transit service in a cost-effective manner. The document provides a set of design guidelines to test the `transit friendliness' of subdivision plans and is extremely useful for anyone developing residential subdivision plans.

At a time when concern for the environment and for the quality of life is increasing, a stronger recognition of the role of public transportation is important. This document is one of the many initiatives being undertaken by the Transit Department to emphasize the role of public transportation in Winnipeg. It is the Transit Department's hope that this timely initiative will herald a new co-operative effort between the City of Winnipeg and the development community, leading to the development of "transit-friendly" communities. Such communiti can provide a liveable urban environment which all Winnipeggers can be proud of.

The Transit Department has already provided copies of this document to developers, planners and consultants in Winnipeg. Copies are obtainable by contacting Mr. Varghese Cherian, P. Eng., Transit Planner at 986-5777. □

Code of Ethics Jpdate

The membership is advised that, at its January 14, 1991 meeting, Council repealed Clause 6.9 of the Professional Engineers Code of Ethics. It is now no longer the duty of the Engineer to "not accept employment by a client, knowing that a claim for compensation or damages, or both, of a fellow engineer previously employed by the same client and whose employment has been terminated, remains unsatisfied, or until such claim has been referred to arbitration, or issue has been joined at law, or unless the engineer previously employed has neglected to press his claim legally, or the council of the association gives its assent." □

Professionalism Defined

Continued from page 4

Dick Johnson from the University of Manitoba then presented the "APEM Code of Ethics". The Code of Ethics helps guide a professional engineer's actions, and ensures that the general public is protected not only legally, but also by the engineer's own conscience. Mr. Johnson is chairman of the Practice and Ethics Committee, which investigates engineers who act outside the dictates of the Code of Ethics.

The topic of "Professionalism" was addressed by Walter Saltzberg. It was noted that professionals must devote their energies and abilities to the welfare of the public. A professional must ensure that all of the work he or she performs is complete and accurate. There can be no cutting corners. A further responsibility of a professional is to maintain a level of competence in his or her field as new technology develops.

A video entitled "Gilbane Gold" was presented by Dave Ennis, and a discussion period followed. Again, the focus of the presentation was the ethics of a professional engineer's actions.

The final presentation of the day was "Fiduciary Responsibilities" by Walter Harrison. A fiduciary is "a person to whom property or power is entrusted for the benefit of another." The property most often entrusted to professional engineers is of an intellectual nature, and engineers have an ethical responsibility of non-disclosure of such property. Two court cases involving fiduciary responsibility and the judge's rulings in the cases were discussed.

In summary, the seminar provided an interesting insight into the concepts of professionalism. □

New Publications

Canadian Wood Council New Wood Design Manual

Cost: $10.00

Available from Canadian Wood Council,
55 Metcalfe Street, Suite 1550, Ottawa, Ontario K1P 6L5

Phone: (613) 235-7221

Fax: (613) 235-9911

Videos Available

For those of you who wish to recapture the highlights of some of your Professional Development Committee's breakfast seminars (and for those of you who simply haven't been able to rise to the occasion at that early hour!), APEM has available for borrowing, on VHS, video cassettes of the following presentations:

APEM, What Can It Do For Me? - W.B. Mackenzie, P. Eng.
Panel Discussion - The Problems Relating To The Legal Liability Of Engineers
Free Trade - The Impact On Engineers - Russell Hood, P. Eng.,
Continuing Education for Engineers - Peter Van Vliet, V.P., E.I.C.
Trends In Engineering Education - Glenn Morris, P. Eng., Fac. Of Engrg.
The Art of Leadership - Lloyd McGinnis, P.Eng.
The Future Of Engineering - Dr. Philip Lapp, P. Eng.
Engineers In Management - Gordon Staples
The Professional Engineer's Responsibility For Hazardous Waste - Rich Cooke, P.E.
Engineering And The Media - Dwight Macaulay, Dir. of Information Services
Professionalism & Unionism Are They Compatible? - Iris Craig, PIPSC
Engineering Ethics & The Environment - Carson Templeton, P. Eng.
Burnaby Shopping Centre Collapse - C. Peter Jones, P. Eng.
Stress And You - Richard Sawchuk
Professional Engineering In The USSR - Arkady Tsisserev, P. Eng.
Chernobyl & Its Effects - Ostap Hawaleshka, P. Eng.
The Jordan/Egypt Electrical Interconnection - David E. Fletcher, P. Eng.
The Human Behavior Factor In Engineering - Dr. Stuart Kaye

We also have available the following video cassettes:

To Engineer Is Human - BBC Enterprises
Truesteel Affair - Assoc. of Professional Engineers, Ontario
Energy For Tomorrow - Les Productions Video-Trame Inc.
It's Up To You - Assoc. of Professional Engineers, Alberta
Professional Engineer - Assoc. of Professional Engineers, New Brunswick
"Gilbane Gold" - National Society of Professional Engineers

Rocks Away!

By: W.B. Mackenzie, P. Eng.



Walter Schoenfeld, Doug Petrick, Brent Wall, and Tom Price.

A few years ago, I reported on the APEM bonspiel under the heading, "The Boys of Winter". This was a takeoff on "The Boys of Summer" sobriquet applied to professional baseball players in the dim past when those worthies actually played the game for fun.

However, "The Boys of Winter" in APEM bonspiels is no longer applicable, appropriate or acceptable. We now have women competing! But the bonspiel is still played for fun. And it certainly doesn't attract professional curlers; a few pothunters, yes, but no pros. A more pertinent question might be "Are curlers part of the human mainstream or simply a mutated, off-beat, happy-go-lucky bunch of rock-slinging cavemen (cave persons)?" The consideration of this deep philosophical question is left to the reader.

So - on with the reporting.

Once again, the Mother Club (The Granite) played host to our bonspielers. Bill Saunders, an engineer of incredible age and ability, was a competent drawmaster. He also skipped a rink of ancient curlers - who received no consideration and who won no prizes. Harold Wilson and Julien Lavergne ran the "Draw-the-Pot" competition - a new and successful addition to our Bonspiel format.

The shooting got underway in the early morning hours. The curlers were escorted onto the ice by a kilted Scot (Kirby McRae) to the sweet music of the bagpipes.

When the shouting and the tumult subsided late in the afternoon, a new champion had been declared. Tom Price carried Brent Wall, Walter Schoenfeld, and Doug Petrick through the spiel without a loss. It was a worthy feat-considering the calibre of competition.

Other event-winning rinks were skipped by Harvey Kaita, Tim Stratton, Darryl Pokrant and Bill Macauley. Winners in the "Draw-the-Pot" competition were Norm Ulyatt and Gord Kuch.

All in all, it was a successful, enjoyable bonspiel. The Sports Committee deserves a large thank you from all the participants. □



Tom Price, Brent Wall, Doug Petrick and Walter Schoenfeld receiving the President's trophy from Bill McDonald.

Council Reports

January 14, 1991 *By: W.G. McKay, P. Eng.*

AT WHICH COUNCIL SUPPORTS THE INVOLVEMENT OF GEOSCIENTISTS AT CCPE AND THE REGINA WOMEN IN ENGINEERING FORUM.

The Meeting commenced at 1:00 p.m., with all but two councillors in attendance and with no additions to the agenda. There followed a quick approval of the agenda and of the minutes of the previous meeting. They then proceeded quickly through the business arising, noting that there is still a requirement for members on the proposed Board of Directors for the James Avenue Pumping Station Project.

Financial statements were quickly reviewed. There was a question raised as to a rather large entertainment item; however, it was quickly pointed out that this was for the president's reception for the out-of-town visitors at the time of the annual general meeting – a one-of-a-kind affair.

In the matter of licences, it was noted that one applicant renewing his licence for the fifth year, and hence required to rewrite the usual exam on the Engineering Profession Act, Code of Ethics, and By-Laws, had failed the same single, obscure question this time as he did five years ago. Council decided that, because he had not been given the correct answers five years ago, the applicant should be granted a licence, without reference to the observed coincidence.

Board of Examiners - appeal of assessment.

Council received a letter of appeal from an engineer who had applied for an assessment of his academic credentials and whose application has been reviewed - twice - by the Board of Examiners. His initial academic education had been in India, followed by additional education in the U.S. and Canada. After much consideration and reconsideration of considerable information, the Board of Examiners had requested that he write two confirmatory exams of his choice in his field of engineering. In the ensuing Council discussion, it was noted that, via a motion of Council some seven years ago, it is the Association's policy that an applicant's work experience be dealt with separately and not in conjunction with the academic experience. Hence, the discussion at hand was to be limited entirely to the academic experience.

As expected, when academic qualification influences the registration of an applicant who has a degree of maturity in his field, the many aspects presented in the applicant's position, and conversely by the Council's review, are cause for much discussion. These are not matters readily resolved, and the final vote upholding the Board's assessment (two confirmatory exams), while passed, was not unanimous.

As policy and procedure are often examined more closely when such a case as the above arises, Council will be looking for the report of the Ad Hoc Committee on Admission Standards to review several policies, including the wisdom of evaluating academic and work experience separately.

Assessment Appeals.

Appeals of assessments are extra work for staff and the Board of Examiners, and as there are often as many as ten per year, Council agreed to a charge of $95.00 per appeal. (Currently, there is no charge.)

Guide to the Engagement of the Consulting Professional Engineers. This is document whose production was commenced in 1989 and completed in 1990, and presented to Council in a new format. As the document is for the use of the public as well as those engineers who may routinely engage consulting engineers, Councillor Cape recommended that the format of the introduction to this document be restructured to appear more user-friendly to the general public. Council was in agreement.

Geoscientists.

Two provincial associations, Newfoundland and B.C., have recently taken the word "geoscientists" into the titles of their provincial associations. Since both of these Associations are members of CCPE, CCPE must now change its By-Laws to accommodate these name changes. APEM Council, as a member of CCPE, gave consent to these requested By-Law changes.

With the growing trend for geoscientists to be recognized as professionals, the practice in many provinces has been for the provincial engineering organizations to encompass geoscientists. (APEM has eighty geoscientists currently registered as professional engineers, but has ceased to register any new geoscientist applicants.) Because geoscientists are now members of some provincial associations, and therefore eligible to participate in the management of those associations, the question has arisen as to whether the participation of geoscientists in the management of CCPE should be allowed. This will be an item of discussion/decision at the forthcoming annual meeting of CCPE. Council approved the recommendation of the Executive Director to support the inclusion of geoscientists in the management of CCPE.

Code of Ethics.

The employment of an engineer by a client who has terminated a previous engineer's employment under questionable circumstances has been considered by the Practice and Ethics Committee. Clause 6.9 of the Code advises the new engineer not to accept employment with a client when the circumstances of the previous engineer's employment were of concern, and when that previous concern has not been resolved. The committee, which is now working on a new Code, recommended that this clause be deleted from the Code on the grounds that this is more an affair of business practice than of engineering practice. Council approved the deletion, and the recommendation of the committee and the supporting documentation will be published in the Manitoba Professional Engineer.

Women in Engineering Forum.

The Canadian Council on Women in Engineering is holding forums across Canada, one of which is to take place in Regina on February 26 for the three prairie provinces. These forums will be a source of material for national review on the status of women in engineering. APES, the host, has solicited information and financial support for the forum, which has a budget of $5000. Council approved.

Engineering Memorial Fund.

In closing, the president advised that the contributions to the Memorial Foundation Fund had been most encouraging, and that it appeared as if the objective of $6000 ($2 per member) may be achieved.

Adjournment came at 3:30 p.m., indicating a speedy meeting assisted by good documentation. □

February 11, 1991 *By: S.K. Ray, P.Eng.*

AT WHICH COUNCIL FOLLOWS MURPHY'S SECOND LAW OF REVISION: THE MORE INNOCUOUS THE MODIFICATION APPEARS TO BE, THE FURTHER ITS INFLUENCE WILL EXTEND AND THE MORE PLANS WILL HAVE TO BE REDRAWN.

During my long professional career I have attended a variety of formal meetings as a member, committee member, or an executive member. I had never thought that the formal reporting of such meetings would be the job of a professional engineer. After all, such projects were customarily the domain of the steno-secretary in a country like India! I do not know exactly when this custom of reporting the monthly Council meeting of APEM by a member of the Publication Committee came into practice. Perhaps the purpose of this practice is honest - to keep the neutrality of the report! When Mr. McKay, Chairman of the Publication Committee assigned me this task, I accepted it with some scepticism: not because I am a new face in APEM, but mainly because I hate remembering those discussions in which I have no interest. However, when I was introduced formally by Dave Ennis and Shirley Matile to the Council members, I felt comfortable at their warm welcome. In my first attempt I will keep my writing free of the constructive criticism for which I think I need more time and better understanding of the activities of the Association as a whole.

The agenda comprised a total of twenty issues. It took only half an hour to deal with the first half of the issues. Those were all routine items such as approving Licences, Engineers in Training, New Members, Transfers and so on. Only in one case, December 1990 Financial Statements, were questions raised. These questions, over expenditures in 'Salaries & Benefits' and 'Telephone Bills', were quickly resolved by the responsible staff.

The key issues were really three: a Proposal on the Periodic Inspection of Buildings; the Interim Report of the Ad Hoc Committee on Admission

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Public Relations

New Happenings from Your Public Relations Committee

By: M. Cornell

APEM has joined with the Department of Industry Trade & Tourism in launching a major public awareness initiative promoting engineering and science and their impact on the community we live in. A one-year pilot program will be carried out in elementary classrooms of the Fort Garry School Division as part of a move to revitalize science education.

The World-in-Motion kits produced by SAE International (Society of Automotive Engineers) will be used extensively as teacher-student resource materials. The kits form a part of the instructional model developed by the division's Science Education Leadership Committee. The material will complement the program now underway with positive reinforcement of the contribution that engineers make toward the daily activities of community life.

The World-in-Motion kits are being provided by the Industrial Technology Branch of IT&T in response to the broader need to attract more students into engineering and science careers. Recent surveys based on current enrollment projections indicate that Canada will be short 30,000 engineers by the year 2000. This could have a disastrous impact on our industrial base and affect our ability as a nation to remain competitive in the global economy. Inspiring our students towards a positive attitude is a step that needs to be taken to ensure we have a supply of highly qualified personnel.

APEM will contribute to the success of the Fort Garry School Division pilot program through a bi-monthly series of "engineer-in-the-school" visits. A group of approximately 30 volunteers will be provided with topical material and training in presentation skills aimed at elementary students. The school visits will focus on the main themes of the World-in-Motion series and will inject practical engineering activities that are ongoing in the community. This will allow engineers to demonstrate in a very real sense just what we "do" at work and will give students a better appreciation of practical science. □

Engineers Wanted

Here's an opportunity to expand your horizons, sharpen your presentation skills, put your work into perspective, and learn to talk to youngsters at the Grade 4, 5 and 6 levels. Feel up to the challenge? Come on out and do some real promoting of the profession, the organization and your own firm as well.

We will provide you with top-notch instruction in a half-day workshop/seminar setting on presentation skills; give you utmost consideration in tailoring a speaking schedule to meet your job demands; provide you with a topic outline of content requirements; make this a pleasant part of your life.

Thirty engineers covering all disciplines are needed to help make our Public Awareness Campaign a raging success. You will be expected to spend up to one hour per month in the schools, beginning in May 1991 and extending through the fall/winter term, giving talks in support of the World-in-Motion material that will be implemented in the elementary schools of the Fort Garry School Division.

Call Heather at APEM at 942-6481 to register your name.

More details are available from:
Ray Hoemsen at 474-6200/453-3589 or
Mel Cornell at 945-0126.

We promise you an engaging, worthwhile experience. □

Dr. Monique Frize Addresses Manitoba's Women Engineers

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

The Faculty club at the University of Manitoba was the location of a reception held for female professional engineers involved in a Student/Professional Network for female engineering students. Approximately 35 female engineers (and one male engineer!) attended the reception.

In a joint effort between the University of Manitoba Faculty of Engineering and APEM, a network is being established to provide support for female engineering students at the University of Manitoba. The project was prompted by the high dropout rate of female engineering students compared to their male counterparts. A first- or second-year student and a third- or fourth-year student will be grouped with a practising female professional engineer who will provide support and serve as a mentor.

The guest speaker at the reception was Dr. Monique Frize, P. Eng., Chair, Canadian Committee on Women in Engineering at the University of New Brunswick, who was returning home from the Regina Forum. Though Dr. Frize spoke on many topics of concern to female engineers and the entire engineering community, the most important idea was that more women must be encouraged to join the engineering profession. Not only would this benefit the engineering field by decreasing the predicted shortage of engineers, but it would also combine female and male perspectives in technology and design, improving engineering as a whole. To increase the number of female engineers, encouragement has to start at an early age. Math and science has to become more genderless at the elementary school level. Girls at this age have to see female role models, so that it will occur to them that they can be engineers.

Dr. Frize pointed out that the attrition rate among women engineers is high. She suggested that what is needed is a "girls network", in which more experienced female engineers would give support to the newer female engineers. This support would come in the form of advice on how things work in engineering firms, how to get promotions, and how to deal with workplace problems that are unique to female engineers.

The Montreal tragedy has increase awareness of the problems that female engineers face both in universities and in the workplace, she said, although there is still a long way to go. Dr. Frize said there is still no company or university campus that she would consider as "five star" – or even "four star"– when it came to being "women-friendly".

Dr. Frize offered advice to any woman looking for employment in the engineering field. She suggested looking for firms that are "woman-friendly", by asking female engineers already working there what kinds of attitudes the firm has toward female engineers. Dr. Frize further suggested that women not pass up employment in firms with affirmative action programs. She said that she has asked many CEOs of affirmative action firms whether they would hire under-qualified engineers simply on the basis of their gender, and in every case, the answer was no.

Dr. Frize concluded her talk by saying that in the 25 years she has been an engineer, she has never regretted her decision, and she hopes that more women will choose engineering as a career. □

Attention Joggers!

The Sports Committee wants to hear from members interested in forming relay teams for this year's Manitoba Marathon.

If there is a sufficient response, the Sports Committee will form teams, collect fees, handle registration and provide a "Professional Engineers of Manitoba" track top. Let's get out on June 16th and show our colours at this unique community event.

A marathon relay team consists of five runners (men, women, or mixed). Leg distances vary from 4.3 to 5.7 miles. The route winds through some of Winnipeg's most picturesque areas such as Wellington Crescent, Assiniboine Park, Wolseley Avenue, Lyndale Drive and St. Vital Park. Aid stations are liberally scattered throughout the route.

Proceeds from the Manitoba Marathon support the Association for Community Living which assists Manitobans with mental disabilities.

The Manitoba Marathon is one of the largest and best organized community sporting events of the year. It is a great opportunity for Professional Engineers to raise their public profile and have some good fun while supporting an excellent cause.

We want to hear from individuals, partial teams, or full teams. Please call Murray Vanderpont at 284-0580 during office hours. □

Shirley Matile, P. Eng.
A.P.E.M. Director of Admissions

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

Shirley was born in Leeds, England and moved to Winnipeg at the age of twelve. Her father, also an engineer, moved the family to Winnipeg to take a job with Manitoba Bridge.

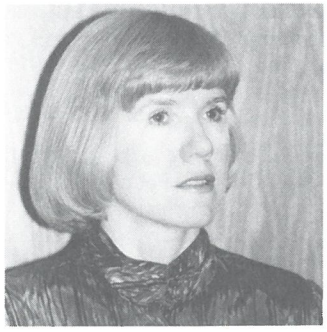
Shirley is a very motivated individual, both in the office and outside of it. She is interested in keeping fit and finds time to be an aerobics instructor after hours. She also cycles to work each day in the summer time. Her other interests include running, cooking and photography.

Shirley's husband, Gaywood, is a geologist with the province.

Shirley graduated from the University of Manitoba with a B.Sc. in Civil Engineering. Her first professional position was with I.D. Engineering Company as a Municipal Design Engineer. She continued to work in the municipal engineering field for over 13 years, with positions at the City of Winnipeg, W.L. Wardrop & Associates, and G.A. Pratt & Associates.

The Association hired Shirley for the position of Director of Admissions, a position that was created when Dave Ennis was promoted to Executive Director. Her official duties include: responsibility for processing inquiries and applications for membership and licensing in the Association; reviewing incoming applications; and providing recommendations to the Registrar on the suitabilityof the qualifications of applicants. She also attends Council and Executive meetings to provide assistance in matters relating to admissions, and she works closely with the Board of Examiners and the Admissions Review Board.

While these responsibilities are very essential to the Association, Shirley spends just as much time with the Publication, Professional Development and Public Relations committees. I know that he devotion to the Publication Committee is w appreciated. □



S.M. Matile, P.Eng.

The Manning Awards

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

The Manning Awards Program, instituted through the Honourable E.C. Manning, Edmonton, Alberta, recognizes and encourages Canadian innovation by rewarding excellence.

In the 1990 awards, Dr. Allan Davenport, P.Eng. received a $25,000 Award of Distinction. He is the Director of the Boundary Layer Wind Tunnel Laboratory, University of Western Ontario, London. Dr. Davenport was cited for furthering the understanding of the effects of wind turbulence on structures, and for developing techniques to predict these effects. He was awarded the APEO's Engineering Medal in 1977.

Readers may recall that in 1989 the principal award of $100,000 was won by Dr. Frank Gunston of Brandon, Manitoba for the replacement of joints through artificial means. Dr. Gunston, a native Manitoban, was first a graduate engineer and later a medical doctor. □

Council Reports

Continued from page 8

Standards; and the Proposed Revisions to By-Law 43. It took, more or less, 30-40 minutes to wrap up the discussions on each issue.

In the interest of public safety, Manitoba Engineers have felt for a long time the need for provincial legislation, to make mandatory the periodic inspection of the structures of existing aged and deteriorated buildings and other public facilities. In June, 1988 Council considered a report and recommendation from the Safety in Engineering Practice Committee, which was originally entrusted with the problem. By the time the Committee had completed its report, a number of other issues had surfaced. Council agreed that the additional issues should be addressed, and expanded the committee's original terms of reference. The present document is the report, more general in nature, of the committee's subsequent findings for submission to the Minister of Labour. Surveys showed that there is a sufficient basis to enact this periodic inspection into legislation. In Canada only Ontario has this legislation and that is also for arenas only.

Frank Roberts and John Frye of the Safety in Engineering Practice Committee highlighted the contents of the Report to Council. Some members of Council expressed the view that the Committee should prepare detailed technical guidelines and specifications, but was satisfied with the present content of the Report, considering it sufficient to initiate the process.

Due to wide ethnicity of the Province of Manitoba, many applicants for registration are educated in countries outside Canada. The appeal of one such applicant of the decision of the Board of Examiners raised the problem of the evaluation of academic qualifications and professional experience. Such evaluations are presently conducted in accordance with the Association's "Admission Standards" of May 1985. Until very recently the Association had no reason to question its procedures for evaluating academic qualifications, although it recognized some difficulties in dealing with the "satisfactory engineering experience". To cope with the last problem an Ad Hoc Committee was put in place on February 13, 1989. After one year of silence, the Committee came into full function and finally proposed a draft outline for a new "Manual of Admissions". Council considered and accepted this draft report as a "talking document", and expressed a desire to see the report in its final form by June/July 1991. Although the report is incomplete in every sense, the reporter noticed at least two major proposed changes in the requirements: a minimum of four years of acceptable engineering work experience of which two years must be performed in Canada (compared to the present 2-year requirement with one year in North America); and compulsory citizenship or landed immigration status.

Now the Association is facing similar problems in defining the "equivalent academic qualification" requirements in the case of an applicant qualified with non-accredited programs to which a substantial number of applicants belong. Council admits its lack of knowledge or in many cases total absence of detailed information regarding non-accredited engineering programs of countries outside Canada. Council declares the urgency of resolving this matter by addressing it through the Ad Hoc Committee on Admission Standards. This is to be accomplished after close consultation with CCPE, CEAB and CEQB. The identified purposes are: developing an expanded data base, evaluating the practices of other constituent Associations, and regular updating. Council failed to spell out clearly that the Association may have incomplete knowledge of the non-accredited programs in Canada itself which may be equivalent. Let us pray that this will also be resolved by the venture attempted by Council.

Council then quickly resolved by denying t appeal of Mr. Malhotra, a membership applicant.

The session continued with the issue of the Law Reform Commission's press release of December 6, 1990, relating to its appointment for examining and creating a uniform regulatory guideline for professional and occupational groups in the province. Council decided to send few letters to the appropriate authorities and to prepare a new brief for submission to the provincial government.

Next comes the most informative issue: the recommendation of the Practice & Ethics Committee for changes to By-Law 43 (discipline). A total of 18 recommendations were made including nice flow-charts of various stages of "complaint systems". The most important two recommendations were: the provision for a "Discipline Committee" in addition to an "Investigation Committee" (which is the function of the Practice and Ethics Committee according to the existing By-Law); and that all the formal cautions should be issued by the Investigation Committee (which is not the practice under the existing By-Law). Council did not have sufficient time to digest the entire document, and concluded the matter quickly by endorsing the proposal reserving its detailed comments for the next session.

Andy Lohse was appointed as a member of the Practice & Ethics Committee, and Dr. G.E Laliberte was nominated for the position member of the Executive Committee of CCPE.

The three-and-a-half-hour-long session concluded with the discussion and subsequent endorsement of SAE "World in Motion" kits for promoting science, engineering and technology awareness to elementary school children in response to a report compiled by Ray Hoemsen. □

West-Man News

By: R. Menon, P.Eng.

An enthusiastic crowd of about 40 people showed up at the Victoria Inn for a supper meeting of the West-Man Chapter of APEM on February 6, 1991. Featured speakers were Ted Snure, P. Eng., City Engineer and Dan Hooper, P. Eng. of Poetker MacLaren Lavalin Inc.



Rob Riesz presents certificate to Ted Snure (left).

The City of Brandon is in the process of upgrading its sewage treatment facility to comply with an environmental order. A study was done for the City and the Manitoba Water Service Board, reviewing various options for upgrading. The study recommended the upgrading of the existing plant into a Sequencing Batch Reactor (SBR).

Ted Snure reviewed the City's existing system, the steps which have led to the recommendation, and the political process - which is as important an aspect as the technical aspects.

Dan Hooper delved into more details on the technical aspects of the upgrading, as well as details of the 1990 program to land-apply sludge from the City's existing anaerobic cell. A second stage of the land application is expected to be successfully carried out in the fall of 1991.

Brandon's sewage treatment upgrading will be carried out in three phases. The first phase is expected to be tendered in 1991, with the remainder in 1992. The cost of upgrading is being shared equally by the City, the Province and the Federal Government. The three-party agreement is expected to be signed shortly, to allow for the tender of the first phase this summer.

The topics covered were very timely for the people present. The change of venue for the supper meeting was also enthusiastically received. We were pleased to see a large contingent (five) from CFB Shilo.

The next supper meeting for the Chapter is tentatively set for May-June, 1991. A family ice-fishing derby will take place shortly at Rivers, Manitoba. Members present also had an opportunity to review the proposed by-laws for the Chapter. □



Rob Riesz presents certificate to Dan Hooper (left).

Thompson News

By: R.J.C. Cotterill, P. Eng.

The Thompson Chapter held its Fall meeting on November 27, 1990 and there were 34 members in attendance. Again we must compliment S. Samu for travelling from Sasaqui Rapids to attend the meeting.

Our honoured guest was none other than our Executive Director, D. Ennis. He gave a short presentation regarding the following topics:

1. Electronic use of the seal
2. Administrative Standards
   a) CCPE model definition of the Practice of Professional Engineering
   b) CCPE model Code of Ethics
3. Professional Registration of Geoscientists
4. APEM News

In the introduction, we were told that Dave was born and raised outside of the perimeter but his lack of understanding of the difference between Saskatoon and Saskatchewan left many wondering. Nice try, Dave - but geography isn't your subject!

Milt Goble was supposed to give the APEM report, but he asked Dave to do it. Was Milt scared that we would find out that he had been sleeping at the last meeting? We will never know. Just kidding Milt, we are proud that you are representing our concerns at Council.

Our next meeting should be in early February; that is, assuming that we can get through all of the snow to get to our next meeting. Presently we have had over 180 cm of snow in the Thompson area. Some of us can't walk in the bush because we are scared that we will fall in the snow and will never be found until spring. □

News From Across the Land

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

Saskatchewan

The Saskatchewan Research Council (SRC) announced the formation of a new Building Science Division to serve the construction and building industries in Saskatchewan and Canada. The Division will launch a new research program concerning radon in buildings and plans to develop a national capability in the areas of radon measurement, assessment and control. The new division will also undertake contract research work for a variety of user groups including manufacturers, builders and regulators.

New Brunswick

A new computer model (OP-PLAN) developed by a forest engineering professor at the University of New Brunswick in Fredericton may help countries around the world plan and manage their forests in a more efficient, effective and environmentally sound manner. As a decision support system, OP-PLAN can be used to simulate operations and see the overall effects - not only the costs, but also whether the plan is sound and implementable.

Ontario

The University of Toronto's Faculty of Applied Science and Engineering (FASE) started the 1990-91 school year with a new code of behaviour citing as punishable offences: unauthorized entry, theft or destruction of property, physical and verbal abuse and harassment or discrimination based on race, creed, colour, national origin, gender or sexual orientation. A student/faculty task force studying problems arising from student activities saw the code as a way of reinforcing a professional attitude among engineering students.

The Ontario Premier's Council reports that because Ontario students are more likely to choose careers in sports and recreation than science and engineering, the province faces a potentially critical skills shortage in these fields. Specifically, the Council's report recommends a common curriculum, including mandatory mathematics and science courses to grade 10, the introduction of province-wide educational standards and evaluation, and English courses beyond basic language training. There is mounting concern across industry, the report says, about the inadequacy of basic language and mathematics skills among entry-level employees. □

Engineer Featured Speaker at Women of Distinction Awards

The featured speaker at the 1991 YM-YWCA Women of Distinction Awards Dinner will be Claudette MacKay-Lassonde, P. Eng., Past-President of APEO.

The dinner will be held on May 2, 1991.

Ms. MacKay-Lassonde is presently Director of Premier Accounts with Northern Telecom Canada. She holds degrees in chemical and nuclear engineering, an MBA, and several honourary doctorates in engineering.

This year, APEM has contributed as a major donor toward the awards. □

– NOTICE –

APEM Annual Golf Tournament

Date: Thursday, June 6, 1991
Place: Carman Golf Club
Mark Your Calendar!

Coming Events

Seminar for Engineers
"UNDERSTANDING PROJECT MANAGEMENT"
April 11 & 12, 1991
Faculty of Extension, University of Alberta, Edmonton
For further information, call re: course no. 7770
Phone: (403) 492-5532

Solid Waste Association Of North America Canadian Prairie Chapter
SPRING WORKSHOP PROGRAM
April 16-19, 1991, Fort Garry Hotel, Winnipeg
Contact: D.R. Thompson, P. Eng., Manitoba Environment
Phone: (204) 945-7083 Fax: (204) 945-1211

Seminar Series
"THE INDOOR ENVIRONMENT AND THE QUALITY OF INDOOR LIFE"
Sponsored by The Manitoba Chapter of Canadian Construction Research Board.
Seminar - April 26, 1991
Additional Seminars September, October and November
Location: Canadian Institute of Industry, Technology
435 Ellice Avenue, Winnipeg
For further information contact:
E. Lach, P. Eng., Secretary, Manitoba Chapter CCRB
Phone: (604) 945-6131 Fax: (604) 983-8835

Manitoba Engineers Support Memorial Foundation

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

In the fall of 1990, APEM was approached for a donation to the Canadian Engineering Memorial Foundation - a fund established in memory of the fourteen victims of the December, 1989 Ecole Polytechnique tragedy.

At its September, 1990 meeting, Council decided, rather than make a single donation on behalf of the APEM membership, to encourage members to make individual donations. The staff was asked to include the provisions for a donation with the invoices for annual dues. Members were given the option to contribute to the Foundation either through the APEM office, in conjunction with their fees, or directly to CCPE.

We are pleased to announce that, as of February 1, 1991, the members of this Association had contributed $6,398 through the office and $270 directly to CCPE, for a total of $6,688 - already surpassing the CCPE goal of $2 per member.

Members are still encouraged to send donations, either through the APEM office or by writing directly to:

Canadian Engineering Memorial Foundation
401-116 Albert Street
Ottawa, Ontario K1P 5G3

Receipts will be issued for donations of $10.00 or more. □

Canadian Wood Council
ONE-DAY DESIGN IN WOOD SEMINAR
May 28, 1991 in Edmonton, May 29 in Saskatoon, May 30 in Winnipeg .
Will review the latest products and methods of wood design.
Contact: Canadian Wood Council, Ontario
Phone: (613)235-7221 Fax: (613)235-9911

Canadian Society for Civil Engineering
1991 ANNUAL CONFERENCE
10th Canadian Hydrotechnical Conference
May 29-31, 1991 Vancouver, B.C.
Contact: John Bell - Bell and Reading Engineering Ltd., West Vancouver V7V 3N3
Phone: (604) 922-3773 Fax:(604) 922-8325

WATERSCAPES '91
International Conference on Water Management for Sustainable Environment.
Co-sponsored by Canadian Water Resources Association.
June 4-9, 1991 Saskatoon, Saskatchewan
Contact: M.D. Osborn, General Manager, Waterscapes, 3-3002 Louise Street, Saskatoon, Saskatchewan S7J 3L8
Phone: (306) 373-9089 Fax: (306) 373-3778

Arctic And Marine Oilspill Program
14th SEMINAR
June 12-14, 1991 Vancouver, B.C.
Sponsored by Environment Canada
Contact: Susan Clarke, Seminar Co-ordinator River Road, Environment Technology Centre, Ottawa, Ontario
Phone: (613) 991-1573 Fax: (613) 991-1634

CANADIAN INSTITUTE OF STEEL CONSTRUCTION
Advance Notice of Design Courses:
"Connections For Steel Structures"- Winnipeg, November 4, 1991
"Low Rise Steel Framed Buildings"- Winnipeg, November 5 & 6, 1991.
Contact: Brenda Williamson, CISC Willowdale, Ontario
Phone: (416) 491-4552 or 1-800-268-3104

Calls for Papers

WESTERN CANADA WATER AND WASTEWATER ASSOCIATION, 43RD CONVENTION
September 24-29, 1991, Winnipeg, Manitoba
For Technical Program Contact:
B. Gladding, P. Eng., Wardrop Engineering Inc., Winnipeg
Phone: (204) 956-0980 Fax: (204) 957-5389
For Operations Program Contact:
B. Amy, C.E.T., City of Winnipeg, Waterworks, Waste and Disposal Dept.
Phone: (204) 986-4797 Fax: (204) 339-2147

CANADIAN ACOUSTICAL ASSOCIATION CONFERENCE
Edmonton, October 9-10, 1991
Abstracts requested on all aspects of Acoustics
Closing date - April 30, 1991
Contact: Dr. M.G. Faulkner, Dept. of Mechanical Engineering, University of Alberta, Edmonton T6G 2G8
Phone: (403) 492-3446 Fax: (403) 492-2200

WORLD BUILDING CONGRESS
Montreal, May 18-22, 1992
Hosted by National Research Council, Canada's Institute for Research in Construction, International Council for Building Research
Abstracts due April 1, 1991
Contact: Congress Secretariat, CIB'92 World Building Congress, National Research Council Canada, Ottawa, K1A 0R6
Phone: (613) 993-9009 Fax: (613) 957-9828

22nd ANNUAL PITTSBURGH CONFERENCE ON MODELING AND SIMULATION
May 2-3, 1991 - University of Pittsburgh
Deadline January 31, 1991
Contact: W.G. Vogt or M.H. Mickle
348 Benedum Engineering Hall
University of Pittsburgh
Pittsburgh, Penn. 15261 U.S.A.

ROSTER UPDATE/CHANGE OF ADDRESS NOTIFICATION

Full Name _____

New Address _____

City _____ Province _____

Postal Code _____ Country _____

Employer _____

Position/Title _____

Bus. Tel. _____ Date Effective _____

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