THE MANITOBA
Professional Engineer
August, 1993
APEM

Pioneering In Highway Bridges

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

A Past-President of APEM, who previously received the "Outstanding Service Award", has written a book about the efforts of Manitoba's early engineers in constructing the bridges necessary to open the province.

George De Pauw has authored *Pioneering in Highway Bridges for the Province of Manitoba & the Engineering Profession.* Mr. De Pauw was originally employed by the Manitoba Department of Highways and Public Works in 1948, after graduating from the University of Manitoba. He transferred to the Bridge Design Office in 1951, and was appointed Chief Bridge Engineer in 1957. He retired from this position in 1988.

Mr. De Pauw's book should not only appeal to civil engineers interested in the design and construction of bridges, but to all who have travelled the provincial highway system. Many will recognize several of the bridges shown in the book. Some of the earliest structures built in Manitoba are depicted, including the Provencher Bridge, the bridge crossing the Red River at Selkirk, Brandon First Street Bridge and the Warren steel truss originally built over the Pembina River on the "Commission Trail", south of La Riviere.



1976 flood of the Souris River, in the R.M. of Cypress. The north abutment washed out during what was probably the maximum recorded flow.

The truss superstructure from the "Commission Trail" is now used to provide a crossing into the Agricultural Museum grounds at Austin, Manitoba. Mr. De Pauw says this is the only "pioneer" bridge preserved this way in the province.

Many other bridges are featured in the book which includes drawings and design details, as well as innovations in bridge design that have been previously incorporated.

Mr. De Pauw also describes many of the individuals responsible for these early efforts, who have applied their skills to build the highways and bridges needed throughout the province.

The book is interesting reading for all engineers - not only bridge designers. □



A "Heritage Bridge" over the Whitemud River designed by M.A. Lyons, first bridge engineer for the Province and first elected President of APEM.



This bridge was constructed in 1907 near Wawanesa, over the Souris River.

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Opinions expressed are not necessarily those held by the APEM or the Council of the APEM

Does Your Company Deserve Recognition?

The Canadian Engineering Memorial Foundation is now accepting nominations for the Canadian Engineering Memorial Foundation Corporate Award. This award, presented for the first time in 1992 to Manitoba's own Wardrop Engineering, will be presented annually to Canadian companies in recognition of their promotion and advancement of women in engineering.

Nomination forms are available from:

Lorelei Scott, Managing Director,
Canadian Engineering Memorial Foundation,
401-116 Albert Street, Ottawa, K1P 5G3

(Tel. 613-232-2474).

The deadline for submission of nominations is October 1, 1993. □

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Announcement

Japan Manufacturing Engineer Exchange

Industry Science and Technology Canada is sponsoring an exchange of up to 10 Canadian engineers from manufacturing for a one-year period in Japan. Orientation to start in October, 1993.

For application and further information, contact Mary Lou Bird, ISTC Canada at (613)952-1170 or (613)954-2903 or Fax (613)992-7499.

WITH DEEP REGRET THE ASSOCIATION RECORDS THE PASSING OF:

E.C. Lamb

WE HAVE LOST CONTACT. MAY WE HAVE AN ADDRESS?

M.L. Brownstone
P.J. Healy
G. Maretzki

President's Message

C.E. Anderson, P.Eng.



Pride and Prejudice

The Oxford Dictionary definitions of Pride and Prejudice are:

Pride: *"A feeling of pleasure or satisfaction in one's actions or qualities", or "A proper sense of what is fitting for one's position or character".*

Prejudice: *"Harm to someone's rights", or "An unreasoning opinion or like or dislike of something".*

In trying to find a fitting means of expressing myself on the subject of **Women in Engineering**, and with no attempt to draw any parallels to the nineteenth-century novel, I chose the same title for this President's Message.

There is absolutely no doubt that women entering engineering faculties, and subsequently the profession, in some cases, have faced and do face discrimination, prejudice and harassment. Engineering schools and workplaces have been, and continue to be, male-dominated, and tend toward the "macho", which can be intimidating to the woman student and professional.

Thirty-plus years ago when I was studying engineering, we were "men" who drank beer, and smoked cigars, and wore black derby hats and grungy T-shirts when our pictures were being taken. No wimps in our crowd. We had one woman in our class whom we all protected like a sister. She accepted us for the twits we sometimes were, but she humoured us. She had a more important goal in mind – **to graduate and practise engineering!**

From what I read today, the male student engineer and the image are changing. Part of what has changed is that there are more women working in the profession and more studying and preparing to work in the profession. Part is because of an increased awareness of women's issues in society. There is still a long way to go, but the door is more open now than it was – 10, 20 and 30 years ago – and that trend will continue. As the number of women graduating and being employed in engineering increases, I believe we are seeing a natural acceleration of the trend. The negative attitudes are diminishing and will disappear as women become increasingly dominant in the profession. We should focus on eliminating the general attitude towards women's place in society, i.e. that their place is in the home, not in the office.

Women should be taking the positive approach. Ignore those who think or act as if engineering is a man's domain. They don't count! I believe that we've reached a point where it is widely recognized that engineering is equally a woman's and a man's domain.

THE JOB NOW IS TO CONVINCE MORE WOMEN TO STUDY ENGINEERING AND ENTER THE PROFESSION.

I call upon my male counterparts in engineering (practising and studying) to recognize when your pride is subtly replaced by your prejudice and to shed what is, hopefully, the last vestiges of those prejudices.

I call upon women engineers to exert your pride and encourage other women to follow in your footsteps. Concentrate on your pride and what remains of prejudice won't matter a tinker's damn.

Isn't it wonderful to be so wise?? □

Letter to the Editor

Two sentences appearing in the April 1993 edition of The Manitoba Professional Engineer deserve comment. The first one is:

> "The Engineering Faculty's brief recommends that the University Education Review Commission urge the Government of Manitoba to invite a proposal from the Faculty of Engineering for an Economic Development Grant consisting of a capital allocation plus an annual operating budget allocation to enable the Faculty to maintain its accessibility and the quality of its current programs, and to introduce a new bachelor's degree program in Environmental Engineering."

Sixty-seven words in one sentence (whew!). How about:

> "The mandate of the Standards Council of Canada (SCC) is to foster and promote voluntary standardization in fields relating to the construction, manufacture, production, quality, performance and safety of buildings, structures, manufactured articles and products and other goods, including components thereof, not expressly provided for by law, as a means of advancing the national economy, benefitting the health, safety and welfare of the public, assisting and protecting consumers, facilitating domestic and international trade and furthering international co-operation in relation to standards."

Eighty words this time (double whew!). When reading sentences like these, I find it difficult not to lose my concentration and have to return to the beginning and start over. Perhaps it seems like a trivial item to comment on, but when it takes two or more efforts to get the message a sentence is trying to convey, something isn't right.

As engineers, we can work with the idea that simple solutions to problems are the ones least likely to have something go wrong with them. Writing is a problem-solving process (to communicate information) that can be approached the same way. There cannot be too many messages around that are best explained in single sentences like the ones quoted above.

Sincerely,
Terry J. Armstrong, P.Eng.

Concrete Highway Bridge Beams Prestressed by Fiber Reinforced Plastics Tested in Winnipeg

By: Dr. S.H. Rizkalla, P.Eng.

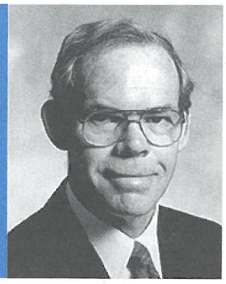
The City of Calgary has undertaken the challenge of constructing the first fiber reinforced plastics (FRP) prestressed concrete highway bridge in Canada, scheduled for July 1993. They have adopted two different types of carbon-fiber-based tendons to prestress eight precast-concrete girders of a continuous two-span skew highway bridge in Calgary, Alberta. Bulb T-section precast girders are used for both the 18.83- and 19.23-meter spans of the bridge. The girders are post-tensioned by conventional prestressing steel tendons to provide continuity over the middle pier. Four girders are prestressed by 8-mm-diameter Leadline tendons developed by Mitsubishi Kasei. The other four girders are pre stressed using 15.2-mm-diameter carbon- fiber composite cables (CFCC) developed by Tokyo Rope. The project is jointly sponsored by Industry, Science and Technology Canada, North Asia Relations Division; SCI Engineers Contractors Inc.; Mitsubishi Kasei Canada; Itochu Canada; the University of Toronto; the University of Manitoba and the Canadian Network for Advanced Composite Materials in Bridges and Structures.

A multichannel fiber-optic-sensing system will be used to monitor the behavior of the bridge over its lifetime. The optical fibers were installed and monitored by the research group of the University of Toronto Institute for Aerospace Studies.

The project included an experimental research program conducted at the Structural Engineering and Construction R&D Facility at University of Manitoba to examine four 6.3-meter beams prestressed by Leadline and Tokyo Rope tendons and monitored by optical fibers similar to the one used for the bridge girders. The beams were tested under static loading conditions and cyclic loading to evaluate various limit-state behaviors, including the fatigue behavior under a load range equivalent to service loading conditions. □

CCPE President's Message

Dr. Robert E. Burridge, P.Eng.



"That the public interest may be served and protected". This creed is the ultimate test of everything we do as engineers. It is a fundamental theme in our best university programs, at the heart of the Iron Ring Ceremony, and ever-present in our professional practice.

But nobody ever said it would be easy.

It implies a high level of technical competence, knowledge of and sympathy with social issues and concerns, and effective communication ability.

In our society, the public interest is expressed in our laws, regulations and codes. Conscience, ethics, responsibility and competence are the "software" which enable our society to function well and in the best interest of the citizen.

Of course there is no unanimous agreement on what constitutes the public interest. Special interest groups lobby governments and the public with particular views of public issues. Such views may represent a sincere contribution to public debate or a narrow self-interest. The latter are often most clamorous.

"As professional marketers and image consultants know so well, perception becomes reality - which is why CCPE has created the new Canadian Engineering Public Awareness Board (CEPAB). "

Every engineering project has an environmental or social impact at some level; and every time a major project gets the go-ahead, some faction will be opposed - regardless of the amount of assessment or lead-time the project was given. In the end, decisions on major projects are often political, loosely based on preliminary engineering or scientific studies, but deeply rooted in the social and political interests of the day. Unfortunately, the impression left as the result of these public debates is that many engineering projects necessarily have a negative environmental impact.

One of the principal reasons for this is that the values of society are constantly changing, so that what was seen to be positive may, at some point a very few years later, be seen as very negative. An excellent example of this is the reclaiming of North American wetlands for farming and community development which, a few decades ago, was viewed as a triumph of modern know-how but which now, in view of different preoccupations and values, is seen as a near ecological disaster.

There are a number of ways for the engineering profession to get out of this impasse.

Engineers must widen their scope of action from being executors of public works to becoming shapers of policy - not only through political involvement, but through the many other avenues open to the expression of a social conscience, such as sitting on various boards, commissions and committees.

This involvement can be stimulated in two ways. First, engineers must be encouraged to seek out opportunities for involvement. Second, policy- and decision-makers must be encouraged to seek out the participation of engineers.

To achieve these objectives it is necessary to mould and reinforce the perception of engineers as responsible stakeholders with valuable personal and professional opinions as to how things could and should be done.

As professional marketers and image consultants know so well, perception becomes reality - which is why CCPE has created the new Canadian Engineering Public Awareness Board (CEPAB). It is expected that the activities generated by this Board will enhance the public image of engineers and the image engineers have of themselves.

This will be done through communications and public relations activities designed to inform general audiences of all ages as to the importance, work and role of engineers in our collective well-being, and by developing positions on public policy issues which will give engineers a voice in some of the important social and political issues of the day.

The result over the medium term should be that we have more and more engineers closer to the helm of business, political and social power and that we encourage young people to see engineering as a good choice for a profession but also as a viable stepping stone for those who wish to eventually take on a leadership role in our society.

This is an initiative which will complement many of the activities already taken on by provincial and territorial associations.

CEPAB will meet for the first time in September and is so far comprised of seven of the most illustrious representatives of our profession (Another representative from Quebec will be invited to sit on the Board):

- Micheline Bouchard, ing., Vice-President at Groupe DMR Inc., my immediate predecessor, has agreed to Chair the Board and will represent Quebec.
- Angus Bruneau, P.Eng., Chair, President and CEO of Fortis Inc. is one of the representatives from east of Quebec, as is...
- Hector Jacques, P.Eng., President of the Jacques Whitford Group Ltd.

Continued on page 8

Deming Comes to Winnipeg

By: R. Klimczak

Through the magic of satellite, the world's most renowned authority on quality will be made available to Manitobans this fall. The Winnipeg Convention Centre will be the site of a September 28 to October 1 program by Dr. W. Edwards Deming called "Quality, Productivity and Competitive Position". This four-day video-conference seminar, presented by the University of Manitoba DOWNTOWN, has never been offered in Canada before.

Engineers will find this program to be particularly meaningful. Dr. Deming shows how the application of statistical analysis techniques and people management concepts can be combined to truly improve effectiveness, whether it be manufacturing- or service- related.

The program consists of six-hour-per-day satellite broadcasts from Dallas, where Dr. Deming will be presenting to a live audience, supplemented by on-site working-group sessions. The University is providing facilitators and group leaders with local and international consulting, teaching and management experience in Deming's methods. The working-group sessions are designed to help participants assimilate principles into real action plans for their on-the-job situations. At the end of each day, responses and questions from the Winnipeg site will be faxed to Dr. Deming and his group in Dallas. The following day they will respond to the most significant comments they receive.

According to Dr. Mark Novak, Associate Dean Academic at the University of Manitoba's Continuing Education Division, "We have talked to business leaders in Winnipeg who have travelled to the USA to attend this same seminar live or by satellite feed and they have advised us this had a most profound effect on the way they think about management processes and how they run their operations. Manitobans are obviously hungry to learn and apply legitimate quality and continuous improvement concepts, and this seems to be the best opportunity available to really learn about it".

At a fee of $695.00 per person, the program costs only a fraction of what it would otherwise cost to travel to Dallas and pay a significantly higher registration fee in USA dollars. A discount is available to groups of eight or more individuals enrolling from the same organization.

The University of Manitoba DOWNTOWN is planning this as the kick-off event in an ongoing program of significant educational offerings on quality and continuous improvement. The executive learning centre of the University of Manitoba's Continuing Education Division, the University of Manitoba DOWNTOWN, is locat at 11 The Promenade, just north of Portage Place.

For more information about the four-day program, please contact the University of Manitoba DOWNTOWN at 982-4220. □

Engineering For Sustainability – APEM Task Force News

By: J.T. Atchison, P.Eng.

The second and third lectures in the series "Engineering for Sustainability", were held on May 11 and June 16, 1993 in the University of Manitoba Medical Centre. Both lectures were directed towards giving guidance to engineers in better understanding their role in creating a sustainable future in terms of the economy, the environment and society.

Following the first lecture on "Public Policy in Engineering" by Premier Gary Filmon, P.Eng., the second lecture in the series was given by Jack M. MacLeod, P.Eng. on "The Challenges of Sustainable Development in Corporations". Mr. MacLeod, a former President and CEO of Shell Canada, as well as a Founding Member of the National Round Table on Environment and Economy, led the meeting through the evolution of Sustainable Development (SD) and its introduction into corporate business practices. The third lecture was given by Ken McCready, P.Eng. President and CEO TransAlta Utilities, on "Business Directions for SD". The following review covers some of the many highlights of the lectures.

The Challenges of SD to Corporations and Engineers (MacLeod):

- Success in recognizing the need for and managing the transition from "ad-hoc attention to environmental issues", through "managing for compliance to regulations" to, finally, the full adoption of "SD management", is the challenge to corporations and engineers.
- More of our time must be spent on SD activities since the success of the transition to SD by business and society depends heavily on engineers. Extremely helpful leadership has already been shown in Manitoba by the Round Table and the International Institute of SD.
- Professional leadership, such as Business Council of National Issues (BCNI), is necessary in business to institutionalise SD principles, philosophies and strategies in each enterprise. Shell (Canada) for example, adopted a "top-down" approach throughout its whole organization for SD, and established a Global Policy Statement, a Statement of Principles, and a set of Targets.
- Multi-disciplined SD education is a strong recommendation from all Round Tables and should be supported by business. The subject must be successfully infused into all levels of teaching.

Business Directions for SD (McCready):

- The imperative facing Business and Society is the need to manage our waste. Pollution knows no boundary, the shed for air, water and land is the "Globe". The ability of the shed to accept waste must be recognized as a scarce resource. Everyone must pay for using the environment of air/water/land as a waste-receptable.



K. McCready – Guest Speaker.

- SD is a concept that integrates environmental objectives with economic objectives, and is not a "trade-off" of one with the other.
- As advanced by the Business Council for SD, and likened to TQM, SD must be integrated into all aspects of business. The efficiencies of the marketplace will assure the most efficient usage. Three prime strategies are proposed:
  1. Harness market forces by using "full cost pricing" of scarce environment resources.
  2. Develop multi-stakeholder communication and participation.
  3. Manage the change within the business processes.
- By adopting traditional business processes in line with the proposed strategies, environmental problems become largely "economic" problems. Also, through the resulting competitive market forces, a driving force is provided for innovation, the efficient use of resources (including scarce resources), and the creation of new technologies.
- Since society is ever ready to pay for improvement to the quality of life, it is logical that it will be ready to pay for remedies to impairments to that quality of life through full cost pricing. Society is already paying for environment impacts in health-care costs, water-purification, etc. Why not pay for them in the most effective place, the beginning, through brilliant engineering and smart design?
- Society has a choice in moving towards SD. The advantage of the market approach is that risks are offset by new opportunities that are inherent in competition (i.e. efficiency and innovation). If essential strengths of innovation and ingenuity are not made to work for the new objectives of society, we see little chance of development becoming sustainable.

An interesting and lengthy discussion followed each of the presentations. Videotapes of the complete lectures are available on loan from the APEM office.

Recommended reading of SD:

1. "Towards a SD Strategy for Manitobans", Manitoba Round Table.
2. "Towards Institutional Change in the Manitoba Public Sector", Manitoba Round Table.
3. "Business Strategy for SD, Leadership and Accountability for the 90's", IISD.
4. "Coming Clean, Corporate Environmental Reporting", IISD.
5. "Changing Course", Stephan Schmidheiny, BCSD. MIT Press 0262-69153-1.

The APEM Task Force invites contributions from all professional engineers to make the program of SD awareness more meaningful and helpful to all APEM members. Plan to attend the 1993/94 lectures, panel discussions, and workshops on "Integrating Environment, Economy, and Society", including case studies in SD. □

Engineers In the News

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

Dr. Myron (Ron) Britton, P.Eng., was presented the Canadian Society of Agricultural Engineering (CSAE) Maple Leaf Award in recognition of his outstanding leadership within the Profession of Agricultural Engineering at the joint meeting of the American and Canadian Societies of Agricultural Engineering held in Spokane, WA, June 20-23, 1993. This is the highest award presented by CSAE. Ron is a Professor of Agricultural Engineering at the University of Manitoba. He is an excellent teacher and an effective and hard worker for the profession.

The University of Manitoba offers Merit Awards annually to selected academics for their outstanding achievements during the previous year in research, teaching or a combination of teaching, research and service. **Dr. Abdel Sebak, P.Eng.,** Associate Professor of Electrical and Computer Engineering, and **Dr. Digvir Jayas, P.Eng.,** Professor of Agricultural Engineering were selected this year in the combination category. Digvir also has twice previously received this award.

Dr. S.P. Simonovic, P.Eng., Professor of Civil Engineering was awarded for the most outstanding article published in the Journal of Professional Issues in Engineering Education and Practice during 1992 by the Edac-Pac Publication Committee (EPPC). The title of his paper is: "Challenges of the Changing Profession".

Research & Development

Opportunities for Research in Space Sciences

By: D.J. Fedirchuk, P.Eng.

On May 5, 1993, approximately 30 engineers gathered for a luncheon presentation by Dr. Kedar Tendon, P.Eng. on his involvement in "Solidification of Alloys in a Microgravity Environment".

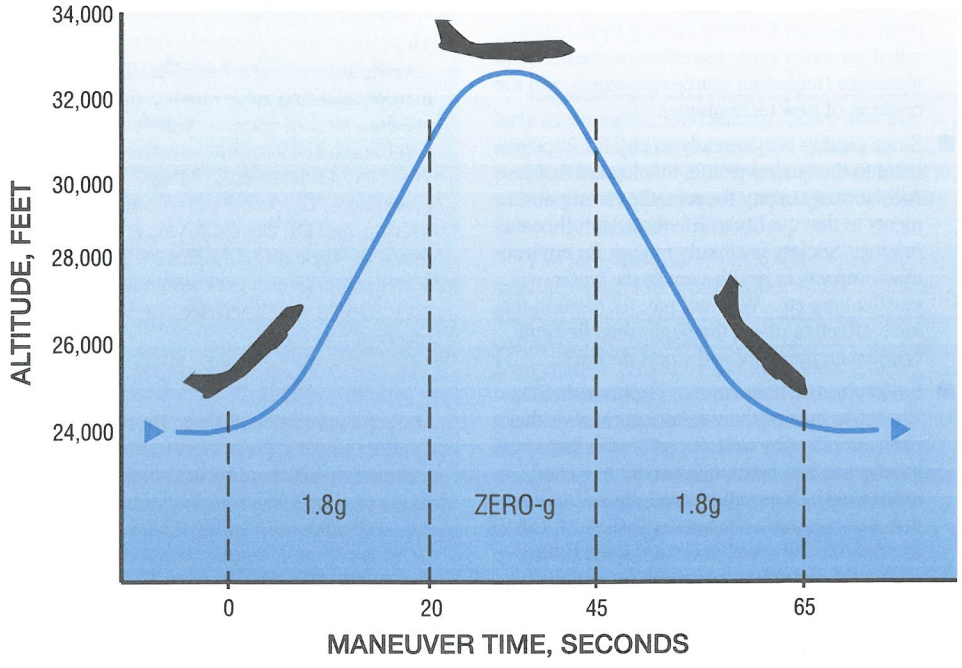
Dr. Tendon began his presentation by explaining the need for and the potential benefits of performing research and development in a microgravity environment. Some areas currently undergoing research and development in microgravity include the behavior of flames, explosions, mass transfer, fluid physics and bio-technologies. On earth, gravity influences all of these processes by causing more dense materials to be separated from less dense substances. This process is continuous and influences, for instance, how crystals in metals or drugs are formed and, interestingly enough, how bubbles of carbon dioxide travel through a glass of beer. Manufacturing crystals or performing processes in a microgravity environment can lead to purer, more precise structures with superior properties.

Dr. Tendon then described some of the processes currently being used to generate a microgravity environment. Presently, it costs about $50 per pound to put material into space using the space shuttle - or about $400 million per flight. Experiments performed on these flights are therefore carefully reviewed for their benefit/cost potential. Demand for space, limited numbers of available flights and stringent requirements for the experimental set-ups also contribute to the complexity in performing microgravity experiments on the space shuttle. Other methods of creating microgravity include parabolic flight by an airplane, sounding rockets and drop tubes. An airplane flying a parabolic pattern can generate 20 seconds of microgravity, a sounding rocket can generate five to 10 minutes of microgravity and a drop tube, such as one which is located in Japan, can create 10 seconds of microgravity. Each of these methods has its own merits and each has been used for specific applications for which it was best suited. A short video was shown illustrating the condition of human behavior in a microgravity environment during parabolic flight of an airplane.

Dr. Tendon described his involvement in an experiment on the space shuttle in September, 1992. This project involved melting an aluminum - copper mixture while in the microgravity of the flying shuttle. The apparatus used for the process was about the size of a 45-gallon drum, weighed about 200 pounds and was totally self- contained. The results of the experiment are being used to verify mathematical models of crystal structures that can lead to new developments and applications.

The presentation made by Dr. Tendon was appreciated by all who attended, and demonstrated that new technologies are being developed through the efforts of people of various countries, their talents and their resources.

Readers are reminded that most of the research and development luncheon presentations have been captured on videotape and are available to APEM members upon request. Please call the APEM office for information, if interested. □



Jobs Wanted

Structural Engineering EIT

Skills:

- Over one year experience as a structural EIT
- Experienced in designing many structures from foundation to the super-structure
- Involved in projects and residential inspection, writing reports and reviewing plans
- Extensive computer experience in basic programming, design programs and the AutoCAD system

Prefer: Full time work

Reliable, productive, hard-working, quick learner

Kassem M. Harb, EIT, 305-540 Polson Ave., Wpg. R2W 0N9,

Tel. 589-0842 Mes. 947-1948.

Mechanical Engineering EIT

Skills:

- Six months experience as a mechanical EIT
- Experience in machine design, testing, and evaluation
- Broad-based computer experience including CAD, UNIX and finite element analysis
- Extensive experience in operating, repairing and maintaining mechanical equipment

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Innovators in the Schools Under New Management

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

Innovators in the Schools, an initiative funded by Industry, Science & Technology Canada, links professional engineers and scientists with elementary, junior high and senior high schools in Manitoba. APEM volunteers, who were the first to participate in this project through their "World in Motion" program, are now regularly called upon by schools to make classroom presentations, judge science fairs, organize industry field trips and provide career information.

The management of the Innovators program has recently been transferred to the Manitoba Museum of Man and Nature. Now, under the capable direction of Denis Dragon, engineers will continue to promote science and mathematics to an ever-increasing number of Manitoba schools.

If you are interested in becoming involved in the Innovators in the Schools program and helping foster an increased appreciation for math and science among Manitoba's youth, please call Denis Dragon at 988-0699. □

Research into Health Effects of Electromagnetic Fields

By: D. Strang, P.Eng.

As public concern continues to focus on the health effects of electromagnetic fields, APEM sought an update on current research in the area. There is some evidence that exposure to magnetic fields, especially time-variant magnetic fields, can have harmful effects on human health.

Dr. Carl Pinsky, Professor of Pharmacology and Therapeutics at the University of Manitoba, described the results of recent investigations at a recent APEM luncheon meeting. The presentation, entitled "Biomedical Advances - Engineering Support", provided an overview of research conducted by Dr. Pinsky and his colleague, Dr. Frank Labella. The subject is most relevant to engineers who are being called upon to address technical issues relating to the production, distribution, and utilization of electric power.

The June 10 luncheon, which was attended by about 40 people, was one of a series sponsored by the Research and Development Committee. Dr. Pinsky began the presentation by saying that the effect on health of electromagnetic fields is a "problem of the twenty-first century" and that so little is known about the subject that few branches of science and technology can give any answers yet. He indicated that while there are several examples of "alarmist" literature on the subject, at least one very careful study has shown a correlation between intensity of exposure to magnetic fields and incidence of childhood leukemia. Exposure intensity in the studied population (along a Swedish transmission corridor) was in the range of 1 to 3 milliGuass (mG) and was time- variant, due to the alternating current. However, scientists have yet to come up with a mechanism that explains the cause of the disease.

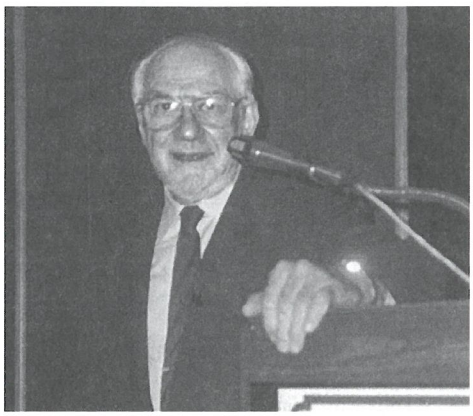
After indicating that very little research has been conducted into such mechanisms, Dr. Pinsky went on to describe some of his research. He has focused on an enzyme called "P-450", which is part of a metabolic chain within the body. It can, therefore, act like a circuit-breaker. A small change in the behavior of this enzyme could upset body chemistry considerably.

Because the nucleus of this enzyme is iron, it was assumed that it should be affected by magnetic fields. This theory was borne out by research that indicated that the properties of the enzyme began to be effected at magnetic levels as low as 100 mG in test-tube experiments. While this level is significantly higher than that in the Swedish study, Dr. Pinsky pointed out that his informal research has indicated that common levels of electromagnetic radiation in homes can be as high as several hundred milliGauss.

The fact that this particular enzyme can be affected by magnetic fields combined with the fact that it can have such an effect on the body provides one theory for a mechanism. However, the researchers have only looked at one of many systems of enzymes and only in the laboratory, not in the body. This would indicate that much more work must be done before any conclusions can be drawn.

Another aspect of Dr. Pinsky's research is an investigation of the intensity of electromagnetic fields within subway systems in large cities. He indicated that he has not found any reports on magnetic fields within subway systems, possibly because they operate on direct current and the fields are not assumed to be time-variant. However, his preliminary research indicates that car acceleration and the operation of the motors that propel the cars can both cause time-variant magnetic fields. Passengers in Toronto's subway system, for example, may be exposed to intensities in the range of 30 - 50 mG for the duration of their journeys each day. This represents chronic, repeated, intermittent exposure to epidemiologically significant magnetic fields on a very long term basis.

Dr. Pinsky concluded his presentation by saying that engineering professionals will be called on to work with other professionals to help answer questions relating to this topic. □



Dr. Carl Pinsky.

Manitoba Marathon – 1993

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

Sunday, June 20, (Father's Day), was a fine, clear and hot day: the kind of morning that makes your average runner decide to put off that training run until after sundown. But that Sunday was Manitoba Marathon day. All those intrepid members who had signed up to run were either doing so, waiting or recovering at an exchange point.

Ark Tsisserev of the City of Winnipeg Plans Examination Department finished the full marathon in a very respectable three hours and 20 minutes (fifth in his age class). Ark was also lead runner for the APEM's "A Team" of relayers. They consisted of Julien Lavergne and Elliot Garfinkel of Smith Carter Architects, Bob Partridge of Dominion Bridge and Alan Aftanas of the Seagram Co. Together they finished the 26.2-mile course in a blistering three hours and five minutes, and won the SILVER medal for corporate male.



Bob Partridge (right) hands off to Alan Aftanas.

Other members running in the full marathon included Mike Dewiele of Controlled Environments (3:46), Jim Bailie of Bailie Surveys and Ken Moore and John McFarland of UMA. Ken Moore, UMA's Mad Irishman, completed his first full marathon in a time of 4:22.

The second APEM relay team of Alan Forbes of Unisys, Dave Ennis and Shirley Matile of the Association office, Bill Penny of Motor Coach and the ever-cheerful Audry Bittner (wife of Ron Bittner - Motor Coach) finished within a solid three hours, 23 minutes. For this team of overachievers, 3:23 was good enough for a SILVER medal for corporate mixed. In the 1992 race, this team won bronze. Alan Forbes also completed the half marathon in a time of 1:54.

UMA Engineering entered two teams in the relay. UMA-1 consisted of lead runner and full marathoner John McFarland. John was followed by Blake Mills, Tim Starodub and Jim Terris. Tony Victor of Manitoba Hydro filled on the final leg of the race. UMA-1's time was 3:32.

UMA-2 was led by Jim (Wilde Man) Bailie who pounded out 20 miles at a punishing 7 min./mile pace before pulling out. Jim was followed by Joanne Lewonchuk (Cargill, ex-UMA), Tom Price, Ed Ryczkowski and myself. We finished with a team best time of 3:46. Oh-yeah... wait until next year!

I wish I could report on the performance of all APEM members who got mixed up in the Marathon. Unfortunately, I don't know who you all are! But congratulations to all those teams from Manitoba Hydro, Northern Telecom, Federal Pioneer, Motor Coach and others who took part.

See you all next year. □

Council Reports

May 10, 1993

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

AT WHICH COUNCIL CONTEMPLATES DECLINING STANDARDS OF HIGH SCHOOL EDUCATION

The meeting was called to order at 12:30 p.m. by Vice-President Doug Chapman. Routine items (i.e. Agenda, minutes of April meeting, Financial Statements, Licences, Engineers-in-Training, Transfers, Registrations, and Reinstatements) were approved after some discussion. Three points raised during discussion are of interest to the membership. First, to enroll as an Engineer-in-Training the applicant does not have to be employed as long as he/she is academically qualified. Second, for reinstatement, an applicant must have two years of acceptable engineering experience within the last six years. Third, if, for nonpayment of fees, a member's name has been removed from the register or a member has resigned for some valid reason, the person must re-register before practising engineering in Manitoba. A person who continues practising engineering is in the violation of Engineering Profession Act and can be charged for illegal engineering practice.

Interim Agreement on Inter-Association Mobility

CCPE is in the process of developing an agreement for the inter-association mobility of its members. Council authorised the CCPE Director to vote in favour of it. In its present form the agreement requires the automatic registration of an applicant who has been a member in good standing of another association for the last 10 years. In addition, APEM will introduce a policy that will require transferees to sign a document acknowledging that they have read and fully understand the Engineering Profession Act, By-laws a... Code of Ethics.

Computerization of the APEM Office

Council discussed at length the computerization of the APEM office. An Ad-hoc Committee is working on the details regarding the needs and wants of the association. Upon computerization, you will be able to send material through electronic mail to the office.

Policy on Non-practising Membership

Council is contemplating abolishing the non-practising category of membership. This category was used by the Association for members who are retired, live outside the province, or have returned to university. The association will investigate how other associations accommodate members who are retired, have returned to university, or are unemployed and are unable to pay dues, and make a recommendation to the membership for By-Law changes.

Manitoba High School Educational Standards

Concern was raised over the declining standards in high school education. Council is going to ask the Public Awareness Committee to prepare a position paper for APEM with respect to education and the need for skills that are essential in the work place. □

June 14, 1993

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

AT WHICH COUNCIL APPROVES THE 1994 BUDGET AND SCHEDULE OF FEES AND DUES

President Carl Anderson started the June Council meeting right on time at 12:30 p.m. Four councillors were unable to attend this meeting. The councillors present expeditiously handled all the routine items of business. Dave Ennis then presented the proposed 1994 Budget and Schedule of Fees and Dues. After due consideration, Council approved the package, which brings with it a $2.00 increase in annual dues and licenses.

Ken Jardine, Chair of the Ad Hoc Committee on Admission Standards, highlighted the contents of APEM's proposed Manual of Admissions. Council debated at length the Association's current "log-of-experience" policy for engineering graduates not working under the supervision of registered engineers, and was unable to reach a consensus as to whether this or a similar policy should be included in the Admissions Manual. Finally, since the Admissions Review Board had not yet completed its review of the proposed Manual and of the implementation of the four-year work experience requirement, the matter was tabled until the next Council meeting. Meanwhile, councillors were encouraged to study the Admissions Manual and cross-reference to sections of the Engineering Profession Act.

Pat Feschuk, Chair of the Awards Committee, presented the committee's recommendations for two CCPE awards: the CCPE Gold Medal Award a... the CCPE Professional Service Award. Council concurred with the recommendations. The Awards will be presented to the successful nominees at CCPE's semi-annual Board of Directors' Meeting in November.

Council also heard a presentation by Carol Roberts on the need for a Women in Engineering Advisory Committee. Council agreed to establish such a committee, with Carol Roberts as Chair. Anyone interested in assisting Carol on the committee should call Shirley Matile at the APEM office.

There were several more items on the Agenda, such as the Action Plan for the Professional Practice Examination, the Four-Year Work Experience Requirement, the CCPE Gender-Equity Action Plan and the CCPE National Contingency Resource Pool - but time constraints prohibited their being discussed. (It was already after 5:00 p.m.!) These items, along with the proposed Admissions Manual, will be addressed at the next Council meeting. □

Manitoba SAE Chapter

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

The local chapter of SAE (Society of Automotive Engineers) has been revitalized. Dinner meetings with technical guest speakers, tours of Winnipeg Plants/Facilities, and other activities are planned.

For further information please contact:

Ralph J. Eschenwecker at 287-4334, Fax 284-1956 or Tim F. Stupich at 983-5350, Fax 983-2187.

CCPE President's Message

Continued from page 4

- Robert Gillespie, P.Eng., Director of GE Canada Ltd., will represent Ontario, as will...
- Gerald R. Heffernan, P.Eng., President of G.R. Heffernan & Associates Ltd.
- W. Ralph Bullock, P.Eng., Vice-President at Bristol Aerospace will represent west of Ontario, as will...
- Gerald J. Maier, P.Eng., Chair, President and CEO of TransCanada Pipelines.

I hope you will give them all the support you can in their initiatives, and I hope to report back some successes before the end of my term in May, 1994. With a group such as this one, there is no way we can lose.

Specific objectives of the Board are to Increase Public Awareness, Develop a Public Policy Leadership Role, Promote Women in Engineering, Foster Pride and a Sense of Belonging (to the profession) and Promote Engineering as a Rewarding Career.

I have appreciated this opportunity to address you for the first time as President of CCPE, and I welcome your opinions, comments and suggestions. I will be meeting many of you face-to-face in the coming year, and look forward to an exchange of opinion. You can always reach me by faxing or writing me c/o CCPE.

In coming messages, I will discuss the activities of the other CCPE Boards and the Steering Committee. I feel the work being done is important to the practice of engineering in Canada, and is important to all of us individually. □

Turning On The Kids

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

One of the unexpected pleasures of semi-retirement is that you are more-or-less free to become involved in such science-oriented school programs as "A World In Motion" (AWIM), science fairs, and support to teachers who usually admit that they have forgotten whatever physics they may have struggled through at one time in their past. It was a recent activity at Polson School that gave me pause for thought.

Bill McKay and I had been asked to address some Grades 4, 5, and 6 children for about 15 minutes and then to help with their AWIM activities. In the end, Bill took the Grade Fours which left me with the others - about 30 of them. I'll let Bill speak for himself, but my talk was thin on history, thicker on maxims, and sprinkled with a few visual aids and mention of engineering sites they might visit around the city. The clock on the gym wall allowed me to pace myself. It turned out to be a satisfying afternoon.

Mulling over how I might do things better the next time (not having a dish-washer has its points!), I began to wonder about exactly how many interesting and even, perhaps, nation- or world-leading, engineering projects we have in Manitoba. This is where you come in. Will you help us augment the list that follows? We might even see about collecting a set of slides of these projects, that could be borrowed by other "presenters". Here are the projects about which I know a bit:

1. Hydro's high-voltage direct-current transmission systems.
2. The system of power dams on the Winnipeg and Nelson rivers.
3. Professor Schilling's Mini-University out at "our Faculty".
4. Duff's Ditch and, especially, the diversion dam.
5. The North Transcona grain terminal.
6. The Church of the Blessed Sacrament, Transcona, and its precursor, Professor Sellor's hypar-shaped church in Windsor Park.
7. Dan Old's house on Ash Street.
8. The City's High-Pressure Pumping Station on James Avenue.
9. Bristol's Black Brant rocket system.
10. Port Nelson, Port Churchill, and Manitoba's northern railway.
11. Manitoba's (and possibly Canada's) oldest still-in-use prefabricated building – St. Paul's Anglican church at Churchill.
12. Western Canada's oldest, and still-in-use, timber church – St. Anne's, Poplar Point, and its role in the fur-trade.
13. The York boat.
14. The Western Canada Aviation Museum.
15. The Engineering exhibit at the Museum of Man and Nature.
16. Ham-radio station VE4TTU at the Museum of Man and Nature.
17. The Amateur Radio Museum at Austin.
18. The Agricultural Museum at Austin.
19. Did Manitoba Highways pioneer the planting of hedges as snow-fences?
20. The siting of the CPR between Kenora and Winnipeg.
21. Churchill's Rocket Range.

Hmmm. It's a longer list than I had thought possible – and I've rather neglected Agricultural Engineering, Industrial Engineering, and said little about the EEs, the MEs, and the Geologicals. Can you help us add to the list? (moi at 256-5346) □

Women in Engineering Advisory Committee Being Formed

CCPE recently presented a proposal on gender equity for the engineering profession, entitled "CCPE National Action Plan for Gender Equity", to its constituent associations. This document proposes a number of initiatives to be taken by the Associations to ensure the full acceptance of women engineers in the profession, and to eradicate harassment and discrimination. In order to address the issues in this report, APEM Council has formed a new standing committee: the Women in Engineering Advisory Committee.

The main objective of this committee will be to determine how APEM members can better encourage the full and equal participation of women in the engineering profession. In addition, the committee will help Council to implement the schedule for success recommended in the Canadian Committee on Women in Engineering's 1992 report, *More Than Just Numbers*. The terms of reference for the committee are being reviewed by Council.

Council has appointed Carol Roberts, P.Eng. to Chair this committee, and Shirley Matile, P.Eng. to provide support from the APEM office. Members interested in helping develop long-term goals and strategies to facilitate the inclusion of women in all facets of the profession are encouraged to call councillor Don Osman, P.Eng. at 945-8167. □

APEM Volunteers Judge Science Projects

By: C.A. Nieuwenburg, P.Eng.

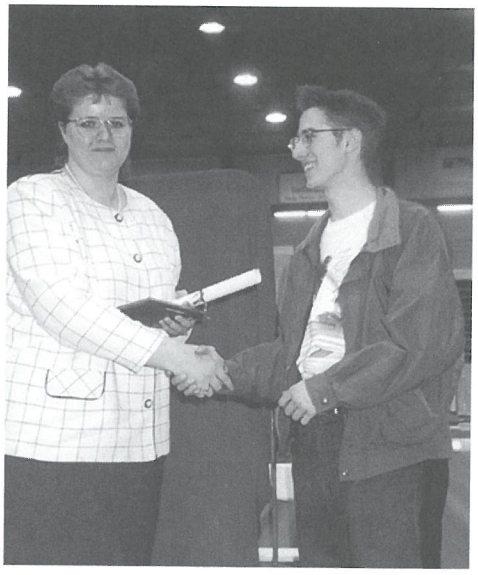
During the first weekend in May, APEM once again participated in the Manitoba Schools Science Symposium (MSSS) at the University of Winnipeg. APEM's continuing sponsorship of the event consists of offering three awards of enrollment in an engineering module of the University of Manitoba's Mini-U program, and one award of a $500.00 scholarship to the University of Manitoba's Faculty of Engineering. In order to be eligible for these awards, students must have presented an engineering-related project and must be aged 10-15 for the Mini-U awards or in Grade 12 for the scholarship.

With clipboards and pencils in hand, 10 volunteer judges gave up a good part of their weekend to sift through, preview, interview and opine over the almost 600 projects entered in the event, and come up with candidates for APEM's awards. With so many wonderful and worthwhile projects, it was difficult to narrow the field to just four. However, given the feedback we've received from the winners' parents, it appears that we found four very enthusiastic and deserving students.

The recipient of the engineering scholarship was Baden de Bari from Pierre Radisson Collegiate, with his project about stepping motors entitled "Stepping Away". Baden's work was noticed last year; but since he was only in Grade 11 then, he was not eligible for the award. We were therefore happy to see him back this year; and, after reviewing his project, we were thrilled to offer him the scholarship.

The Mini-U scholarship winners were Jeff Pleskach of Garson-Tyndall Elementary with a project entitled "Stud Strength"; Candace Chow of St. John's Ravenscourt with a project called "The Strength of Glass Fibers"; and Tara Norberg of Sanford Collegiate, with a project entitled "The Icing on the Wing". Certificates were presented to the winners during the major awards ceremony on Sunday.

Many thanks to the volunteer judges (most of whom participated last year as well), for their time and effort in helping to make APEM's involvement in the event a success. □



Caroline Nieuwenburg congratulates Baden de Bari.

Registrations, Hearings & Appeals

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

In the latter part of 1992, Council conducted two full Hearings as requested by two applicants for registration.

The following is an abbreviated outline of the registration procedure and the Hearing procedure. It is intended to show that admissions Hearings can be very lengthy and intensive, both in time and cost.

Registration

The process of determining academic qualification for registration is relatively simple, provided that the applicant is a graduate of an engineering program accredited by the Canadian Engineering Accreditation Board (CEAB), a board which functions under the auspices of the Canadian Council of Professional Engineers (CCPE).

If, upon examination of the application by the Director of Admissions, it is evident that the institute attended by the applicant is not accredited, or there is doubt as to the status of its accreditation, the application is referred to the Board of Examiners, an independent board of this Association.

The Board, after due consideration of the applicant's degrees, transcripts and syllabi, may support the application or it may request a series of examinations to confirm that the applicant has a knowledge of the engineering subjects specified in the relevant CCPE syllabus. Often, these examinations are of the applicant's choice.

The second Hearing was the culmination of 2 1/2 years of telephone calls, letter-writing, Council reviews, policy-setting and staff time, as well as an estimated cost of $14,000 for legal assistance.

The two applicants in question did not accept the Board of Examiners' decisions, and their files were forwarded to Council. In each case, Council concurred with the decision of the Board of Examiners, and so advised the applicant.

Hearing Procedure

An applicant wishing to appeal the refusal of his or her application by Council may, under Section 23 of the Act, request a Hearing.

The Hearing, in each case, comprised one full day of testimony, followed by a further half-day of deliberations by Council.

The first Hearing involved an applicant with a physics degree from Iraq, a Master's degree in electrical engineering from Wales and a Master's degree in physics from the University of Manitoba. The Board of Examiners had originally assigned seven specific examinations.

During the Hearing, Council heard testimony from the Director of Admissions, the Chair of the sub-committee which conducted the two assessments, and the applicant. Council was advised by Rob Dewar, Q.C.; the Director of Admissions and Board of Examiners were represented by Paul Walsh, Q.C.; and the applicant was represented by Colleen Suche, Q.C. A court reporter recorded the entire Hearing.

The Hearing followed the procedure as set forth in the Act with due judicial procedure of examination and questioning.

Following an additional morning of deliberations, Council decided to reduce by one the number of examinations assigned by the Board of Examiners.

The Association was recently a respondent the Human Rights Commission regarding this application.

The second Hearing involved an applicant with a B.Sc. degree in Mechanical Engineering from India, a Master's degree in Environmental Engineering from University of Western Ontario and 14 graduate courses in Mechanical Engineering from Pennsylvania State University.

During the Hearing, Council, advised by lawyer Bob Sokolski, heard from the Director of Admissions, the Chair of the Board of Examiners, the applicant, and two witnesses for the applicant. Again, Paul Walsh, Q.C., represented the Director of Admissions and the Board of Examiners; and, again, a court reporter was present for the complete recording of the proceedings.

Continued on page 12

Golf Tournament Again Successful

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

The annual APEM golf tournament was held on June 15, 1993 at the Selkirk Golf and Country Club. Approximately 116 members turned out to enjoy the sunshine and the beautiful 18-hole course. The day was completed with a steak fry and awarding of prizes.

Congratulations to Ron Payne. His score of 50 earned him the Landon Cup (low gross). Rob Borody and Bruce Elliott, each with scores of 78, shared the honours for the President's Trophy (low net). Thanks to councillor Ray Hoemsen for presenting the trophies.

From my vantage point at the starter's table, some amazing tee-shots were observed. Some of our members can really hit the ball. And some can't. Special mention goes to Ray Hoemsen, who managed to hit the starter's table with his tee-shot. Honourable mention goes to Terry Kjartanson, whose eye-glasses travelled further than the ball on his first swing.

Thank you to all those members who continue to support this event. Thanks also to the companies who so generously donated prizes. □



Councillor Ray Hoemsen (left) congratulates Ron Payne.



Councillor Ray Hoemsen congratulates Rob Borody (centre) and Bruce Elliott.

Attention Members

The APEM Publication and Sports Committees are seeking volunteers to participate, as members, on their committees. If you are interested please contact: Donna Bilodeau at 942-6481 or Fax - 942-3718.

News From Other Associations

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

ALBERTA

Taking Weight Off Fire-Fighters Backs

The steel cylinders of compressed air which British fire-fighters wear on their backs can impose a heavy burden. A typical nine-litre breathing apparatus weighs 10 kilograms, reducing freedom of movement and contributing to fatigue. A new fiber composite material may come to the rescue. The new lightweight carbon/glass cylinders weigh only 3.5 kilograms, a weight saving of up to 70 per cent. They are 20 times stronger, weight for weight, than steel. "We regard the cylinder as a major break through," says Ken Knight, Devon's deputy chief fire officer. The cylinders, developed by EFiC of Nottinghamshire, are made by layering fibers in an epoxy resin matrix around an aluminum alloy liner.



ONTARIO

New Undersea ble To peed Communication

Come 1994, more Canadians and Americans will be able to communicate with more Europeans more quickly than ever before, thanks to a Northern Telecom subsidiary that's designing and manufacturing a new fiber optic cable to be laid under the Atlantic Ocean. When completed in October 1994, the 7000-km long-haul CANTAT-3 cable system will be the first of its kind to operate to the new international synchronous transmission standards - SONET in North America, SDH in Europe. It will also be the first to operate at a transmission speed of 2.5 Gbit/s, which offers 30,000 circuits per fiber pair. Currently, 2.5 Gbit/s systems are short-haul only(under 1000-km long). CANTAT-3, being built by London, U.K.-based STC Submarine Systems, will link Canada with Germany, the U.K., Denmark, the Faroe Islands and Iceland. Eventually, it will extend via other systems to the USA, Eastern Europe and the Commonwealth of Independent States.

The cable is being built for an international consortium of telecommunications service providers led by Teleglobe Canada. "The main technological improvement has been increasing the capacity from 560 Mbits/s to 2.5 Gbit/s," Dr. Saul Lanyado, Managing Director, STC Submarine Systems, said. This provides a basic capacity equivalent of more than 60,000 voice circuits for the transmission of voice, data, facsimile and video traffic." Robert White, Vice-President, Teleglobe Canada Inc., said that the new system reduces costs by a factor of three.

Offshore Product Certifications Get The Nod

The global market for manufactured goods is becoming a reality, as Canada, the United States, Mexico and Europe take steps towards recognizing each other's product certification systems. In two recent developments, the Canadian Standards Association (CSA) has been accredited as a testing organization in the United States, while the Standards Council of Canada (SCC) has met with European officials on the possibility of Canadian organizations certifying products to European standards.

In January, CSA became the first non-American certification and testing organization to receive United States Occupational Safety and Health Administration (OSHA) accreditation. It is now recognized throughout the USA as a testing laboratory in over 360 product categories.

SCC recently accredited its first two USA certification and testing organizations to certify American products to Canadian requirements.

American product certification organizations became eligible for SCC accreditation as a result of the Canada/USA Free Trade Agreement, which provides for the mutual recognition of accreditation systems between the two countries. Parrow says that if signed, the North American Free Trade Agreement would provide for the mutual recognition of accreditation systems throughout North America. The council would then accept applications for accreditation from Mexican certification and testing facilities. □

Portage Chapter News

By: J. Close, EIT

The Portage Engineering Group (PEG) held a supper meeting on April 26, 1993 at Kae's Place, Southport Aerospace Center. Attending were 13 members of PEG and guest, Dave Ennis, Executive Director and Registrar of APEM.

Mr. Ennis brought greetings from the Association and recounted the activities that have been keeping the Association busy lately. Some of the topics discussed by Dave and the members present included the new EIT experience requirements, continuing education for professional engineers, consideration of limited licensing for technologists, and development of an electronic seal.

Neil Shirtliff, Chair of PEG's Mission Statement Committee, presented the recommendations of the committee and moved that the following be adopted as the Mission Statement of the Portage Engineering Group:

1. To create a structured forum to encourage and facilitate the study, discussion, and exchange of ideas and information of interest to the members.
2. To provide a means of communication by which PEG members can forward issues to APEM and that APEM can use to provide feedback and information to PEG members.
3. To encourage, promote, and facilitate the ongoing professional development of PEG members.
4. To promote and raise the profile of engineering within the community.
5. To foster improvements within the educational system.

The first four items were adopted unanimously by the Group and the fifth item was defeated. PEG now has a Mission Statement!

Dan McInnis reported that arrangements for the McCain's tour have been finalized, the membership roster has received security clearance by McCain's, and all that remains is to finalize a date. A vote indicated May 12 would be the preferred date.

The group decided that a windup meeting before summer shutdown will be held in conjunction with a social activity such as golf. Brian Bowes and Rick Kitson volunteered to explore this possibility with Southport's golf club.

That's all from Portage! I wish everyone a great summer. □



From left to right: Bob McKibbin (back to camera), Dan McInnis, Jon Close, Neil Shirtliff, A.J. Miller, Doug Jackson, Doug May, Tom Wilson, Rick Kitson, Dave Ennis and Alphonsus Utioh.

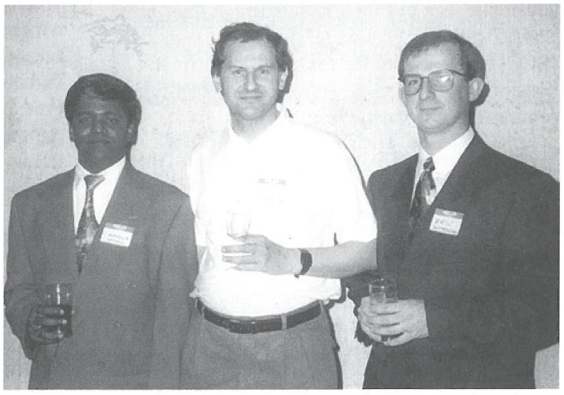
New Members Reception

By: E. Ryan

APEM's New Member Reception was held at the Wildewood Golf Club on May 4, 1993. This is an annual, informal gathering to which are invited "new" members who have become registered with the Association during the previous 12 months. At the reception, they have the opportunity of meeting and talking with members of Council, committee members and staff.

This year, after introductions by Executive Director, Dave Ennis, warm, witty and wise words of welcome were extended by Council President, Carl Anderson. Then, everyone got down to the more serious of business of enjoying the refreshments and convincing new members to volunteer for committee service.

While the concept of welcoming new members has merit, attendance has declined steadily over the past few years. With that in mind, a change of format for the event is in progress. As well, the function will be held during Engineering Week, next year. Perhaps these innovations will encourage more new members to come out and say, "Hello". □



New members (from left) Manjula Mathew, Jan Filipecki and Eric Witkowski.

Registrations, Hearings & Appeals

Continued from page 10

This time the Hearing procedure was complicated by the applicant's not being represented by legal counsel and his unfamiliarity with legal procedures. However, Council made every effort to accommodate the situation.

Following the Hearing, Council upheld the decision of the Board of Examiners that the applicant be required to successfully complete the two confirmatory examinations of his choice.

An applicant may appeal the decision of the Hearing to the Court of Queen's Bench. In both instances, the applicants decided not to appeal.

Summary

The Hearings are open to the membership and the public, and the proceedings of the Hearings can be made available at cost to anyone who may wish to review them. The second Hearing was the culmination of 2 1/2 years of telephone calls, letter-writing, Council reviews, policy-setting and staff time, as well as an estimated cost of $14,000 for legal assistance.

The request by each of these applicants to Council for a Hearing resulted in the establishment of Council's appeals procedure. These two Hearings are likely a "first" for Council, and have established a bench mark both for the protection of the public and for the applicant to present his or her position to the highest level of authority - Council. □

The Professional Engineers' Wives Association

The Executive of the Professional Engineers' Wives Association for 1993-94 is as follows:

President	Mary-Ann Dickson
First Vice Pres.	Carol Klein
Second Vice Pres.	Judy Beattie
Past President	Linda McQuade
Secretary	Lynn Scott
Treasurer	Mary Matthews
Assistant Treasurer	Marusia Foster
Membership	Mary Cameron
Social Convener	Shirley Craik
Program Convener	Hannya Klimenko
Telephone Convener	Lorraine MacLeod
Councillors	Joyce Oleksiuk
	Dolores Jardine

The Membership Tea will be held on September 28th, 1993, at the home of Roslyn Farlinger, 20 Victoria Crescent (St. Vital), 1:00 p.m. - 3:30 p.m. All wives of professional engineers are welcome. □

Coming Events

GROUNDWATER WORKSHOP

November 9-10, 1993

Viscount Gort Hotel, Winnipeg

Sponsored by the Provincial Council of the Western Canada Water & Wastewater Association

Contact: Bill Brant, P.Eng.
Phone: 477-6650

CSCE Manitoba Section

ALTERNATIVE DISPUTE RESOLUTION

Application to the Construction Industry

September 15, 1993

Contact: Doug Kramble, P.Eng.
Phone: 956-0980

FIRE PROTECTIVE DESIGN 3-DAY COURSE

December 9-11, 1993

University of Manitoba, Continuing Education

Contact: Jim Hartman
Phone: Project Information 474-8020
Brochure 474-6742

Call For Papers

1994 CSCE ANNUAL CONFERENCE

June 2-4, 1994 - Winnipeg

Calls for papers for general civil disciplines;

Also for the ENGINEERING MECHANICS SYMPOSIUM and the ENVIRONMENTAL ENGINEERING CONFERENCE

Deadline - October 31, 1993.

Contact: Dr. J.A. Oleszkiewicz, P.Eng., Dept. of Civil Engineering, University of Manitoba

Phone: (204)474-8212
Fax: (204)261-9534

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