

Professional Engineer



Professional Development Committee Launches Pilot Project

By: T.J. Cornell, P.Eng. & B.C. Jorowski, P.Eng.

This article is the third in a series intended to keep the APEM membership informed about the Mandatory Professional Development Program (MPDP) which is under development. The first article (June, 1997 MPE) discussed the rationale behind the MPDP and provided a brief overview of the proposed program. The second article (August, 1997 MPE) provided additional details about the program and reported on a recent focus-group meeting on the MPDP proposal. Members are encouraged to assist in developing this proposal by forwarding related concerns or comments to any member of the APEM Council, the Professional Development Committee, or the APEM office.

This article provides a brief overview of a six-month MPDP "pilot" project which will be launched in October, 1997, and will run until March, 1998. The pilot will involve approxi-

mately 100 volunteers who will go through the process of defining their scopes of practice and skill requirements and then planning their annual professional development programs. It will provide an opportunity to gain valuable experience with the program and increase the level of input from the APEM membership. It should provide a good estimate of how much time a member will have to dedicate to the MPDP and what will constitute reasonable minimum levels of professional-development activity.

The group of volunteers will include members from various regions of the province and from various areas of employment (e.g. consulting, management, government, small and large private companies, engineers in academia). Approximately ten regional groups from Brandon, Portage la Prairie, Thompson, Flin Flon/The Pas, Pinawa, and Winnipeg will take part in the pilot. Each

group will have a co-ordinator to act as facilitator and spokesperson during the pilot. Each group will meet monthly to discuss its members' progress and experiences. At the conclusion of the pilot, all regional groups will meet and discuss the proposed MPDP. Members of the MPDP sub-committee will be in on-going contact with the groups.

The APEM Council and your Professional Development Committee would sincerely like to thank all those who will be participating in the pilot project. If you are interested in joining the pilot, please contact the APEM office. Your participation will be immensely valuable in helping the MPDP sub-committee develop a professional development program which satisfies the needs of both the public and the APEM membership.

Copies of the current MPDP proposal are available at the APEM office, or at <http://www.mts.net/~bobbruce/mpdp/mpdp.html>. □

ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF MANITOBA

PROGRAM

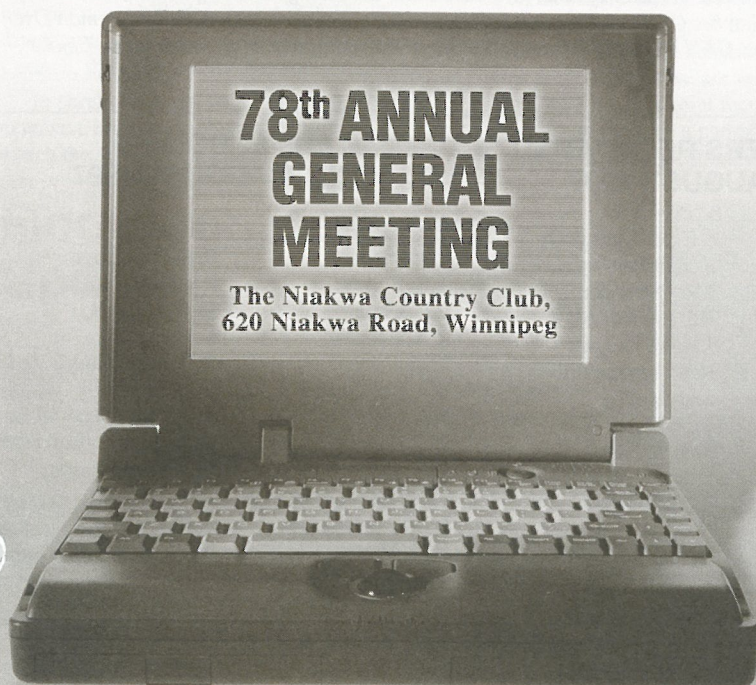
FRIDAY, OCTOBER 17, 1997

PROFESSIONAL DEVELOPMENT SESSIONS

- Please refer to the Schedule of Sessions in your APEM Mailing. Cost \$35.00 includes lunch. (Part- or Full-Day – same price)
- Come and hear more about the MPDP.

SATURDAY, OCTOBER 18, 1997

- 7:30 a.m. Registration
- 8:00 a.m. Buffet Breakfast
- 9:00 a.m. - 12:30 p.m. Official Opening by President J. Malcolm Symonds, P.Eng.
- 12:30 p.m. Business Meeting Accountability Session:
 - The Status of the Proposed Engineering & Geoscientific Professions Act.*
 - Proposal to Introduce a Mandatory Professional Development Program.*
 - Status of the Negotiations with other Professional Associations in Manitoba on Scopes of Practice.*
- Continuation of Business Meeting
- 6:30 p.m. Reception
- 7:30 p.m. Awards Dinner, Presentation of APEM Awards, Dancing



THE MANITOBA Professional Engineer

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P. Yamada, P. Eng., Thompson
R. Menon, P. Eng., Brandon

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



Electrical and Mechanical Engineering Articles WANTED

The Publication Committee would welcome articles related to the mechanical and electrical engineering fields as well as other topics that would be of interest to APEM members. If you have any ideas or want to write an article for the MPE, please submit them to the APEM office.

Team Cormorant signs letter with the University of Manitoba

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

The Cormorant is a new-generation search-and-rescue helicopter which incorporates advanced technology and design concepts to provide enhanced operational capability. Team Cormorant is an aerospace consortium with local ties that is hoping to win its bid to provide the Canadian government with 15 new search-and-

rescue helicopters. On July 10, 1997, Team Cormorant signed a letter of intent with the University of Manitoba pledging up to \$100,000, along with technological expertise, should they win their bid. At that point, graduate students and researchers at the U of M would help test materials to be used in the Cormorant helicopters. □



Standing: Ron Duhamel (l), Minister of State for Science and Technology and Reg Alcock, Fort Garry MP. Seated: Arrigo Gembro (l), Team Cormorant Program Manager, Agusta SpA, Italy; Norman Dyer, Procurement Manager, GKN Westland Helicopters, United Kingdom; and U of M President, Emoke Szathmáry.

NEW MEMBERS REGISTERED JULY & AUGUST, 1997

| | |
|-------------------|--------------------|
| D.J. Babala (AB) | S.E. McKyes (PQ) |
| E.B. Davison (AB) | K.B.P. Osiowy |
| D.G. Fawcett (AB) | J.R. Ostrander |
| C.B. Gilbert (AB) | R.I. Phipps (AB) |
| N.K. Hain (SK) | J.F. Prendergast |
| L.E. Hazell (ON) | R.W. Savage (ON) |
| X. Jiang | M.J. Scerbo |
| D.W. Kemp (ON) | M.A. Schor (ON) |
| T. Leung (AB) | V.S. Walkes |
| R.B. Lomheim (AB) | D.G. Wentland (AB) |
| P.T. McGinn (SK) | J.J.C. Wortley |

EITs ENROLLED JULY & AUGUST, 1997

| | |
|-----------------|-----------------|
| M.K. Bauer | G.R. Mullin |
| J.D. Buchko | R.A. Procyshyn |
| A.S. Burley | P.V. Remillard |
| L.B. Chung | M.C. Rheault |
| R.A. Csupak | K.G. Saban |
| L.M. Davis | A.D. Saranchuk |
| B.A.C. Douglas | B.L. Serger |
| N.J. Dunn | J.A. Smith |
| D.T. Furkalo | C.D. Struth |
| D.C. Krokosz | M.K. Thomlinson |
| J.J. Malkoske | R.D. Walker |
| M.M. Melchiorre | G.B. Wright |
| R.G. Menon | S. Xu |

LICENCES ISSUED JULY & AUGUST, 1997

| | |
|------------------|---------------------|
| T.S. Bharj (AB) | R.B. James (DE) |
| S.H. Gebler (IL) | K.E. Nicholson (DE) |

REINSTATEMENTS JULY & AUGUST, 1997

G.R. Gevaert

President's Message

J.M. Symonds,
P.Eng.



Reflections

This is my final message as President of your Association. It has been the custom for this last message to be a reflection upon the events of the past year with an assessment of the progress that has been made. In keeping with tradition, this President's Message will endeavour to do that.

It seems like many of the efforts of Council and various committees have come together over the past year. For at least the past three or four years, there have been ongoing programs to focus the APEM on those activities which advance the purpose of the Association, specifically in support of the Act and the protection of the public. I feel that, as a volunteer organization, we have been very successful in breaking away from the status quo and advancing the efficiency of regulation of the practice of engineering in Manitoba. This has not been in isolation from the rest of the country. We have followed the lead of other organizations in some areas, but we have led in some other, very important, areas.

First, we were successful in using a structured strategic planning approach in January to come up with a new vision – a vision against which all Association activities and events could be assessed for compatibility. To date, this has been particularly useful in keeping our various aims and goals in focus. It has been satisfying to see how the new vision has been helpful in giving direction to all aspects of the operation of the Council, the staff, and the various committees.

In parallel with this effort, there has been extensive introspection concerning the way in which the Association and its committees are

structured. This has resulted in a review of the very basic way that the Council, Executive Committee, staff, and committees operate and report. It is being done with the intention of streamlining the operation of all groups while driving the authority and accountability to the lowest practical level. This has not been implemented yet, but it is in the final stages of review.

Of particular note over the past year have been the efforts by the Legislation Committee and the Council to finalize and submit the new Act to the Legislature. The process of developing the new Act, however, had some major influences on our relationships with other technical groups in the Province and elsewhere. It encouraged some and was an anathema to others. The process for reviewing the proposed Act was significant in that it was the first time in the 76-year history of our Association that we had formally proposed the inclusion of other technical groups. It was intended that the geoscientists would be full partners in our activities and that, for the first time, the technologists and technicians would be recognized as worthy members of the technical team. It also would have given us the authority to create processes and procedures to help ensure that the practice of engineering by organizations, as well as by individual engineers, was conducted as safely and competently as possible. Unfortunately, the introduction of the Act into the Legislature was blocked by the action of a particular group outside of our organization for its own self-interest and parochial reasons. The Council has taken steps to re-introduce the Act at the next session of the Legislature, and is attempting to resolve the issues that have been a problem in the past.

While the signing of the Memorandum of Understanding with the Certified Technologists and Technicians Association of Manitoba (CTTAM) took place last year, there has been good progress in working together for common goals. CTTAM played a very significant role in supporting our Association's attempts to get the Act into first reading. Their representatives attended the meetings with government officials with us and showed solidarity with our positions and aims. For this we are very grateful. In addition, we have held joint focus-group meetings and sessions to produce a pamphlet that will answer most anticipated questions concerning the new

joint role of both associations in the governance of engineering activities in the Province. It is the first joint working group and it has functioned well. The pamphlet should be released by the time of the AGM.

In another important co-operative vein, following a Special Meeting of our members, we entered into a Memorandum of Agreement with the Manitoba Association of Architects. In addition to setting out some principles of co-operation, the agreement provides for a Joint Board to give guidance to owners, developers, architects, engineers, or regulatory agencies on the need for or extent of tasks or services to be provided by professionals from either group on any specific building or project. The Terms of Reference for that Board are close to finalization, and it is expected that the Board will also be operating by the time of the AGM.

One of the most pleasurable events in the past year was the extensive flood-relief support that Manitoba received from, first the Quebec engineers, and then the other engineering organizations across the country. Their outpouring of sentiment and support was a highlight of my time in office. We should be proud to be a part of such a caring profession. A total of \$87,200 was raised by the profession to provide engineering services to flood victims. APEM continues to administer the fund, and cards and letters of gratitude continue to pour in.

As I said in my first message last fall, the circle of life has returned to its origin in the context of this Association. When I wrote those words, however, I did not fully realize that, as President, one cannot operate or even exist without the constant and dedicated support of the other members of Council, the various committees, and, especially, the APEM staff. I can't say enough about the support that I have had from Dave Ennis and Shirley Matile. Their constant vigilance and support has made my job very much easier and pleasurable. This also extends to Joan McKinley and the rest of the staff who have been extremely friendly and helpful.

Finally, let me say that it has been a great privilege to have been your President for the past year, and may I wish Peter Washchshyn the very best in his term as your President. □

Flood Compensation Update

Wendy Ryan-Bacon, Interim President of CCPE, flew to Winnipeg on July 10, 1997 to attend a news conference, at the APEM office, announcing the \$87,200 engineering services flood compensation fund.

The fund was created from the generous donations of engineering associations, including CCPE and APEM, across the country. APEM volunteers administered the fund, offering a maximum of \$1,000 per flood victim.

By mid-August, the entire fund was committed. □

Government Services Minister Frank Pitura (l), CCPE Interim President Wendy Ryan-Bacon and APEM President Mal Symonds announce Flood Compensation Fund.



The R&D Committee

LIFE-CYCLE OF AN IDEA Series

ISIS Canada – Solution-Oriented Research Changes Approach to Infrastructure

By: L.R. McGinnis, P.Eng.

In the near future, buildings and bridges will be constructed from materials that are tremendously lighter, stronger, and longer lasting. Structures will be engineered to monitor and communicate the stresses and strains they encounter on a daily basis. An engineer could potentially arrive at work one morning to a message, resembling e-mail, warning of damage that could have a cost in human lives. Without even visiting the site, the engineer will recognize the problem and be in a position to respond swiftly and appropriately.

ISIS Canada (Intelligent Sensing for Innovative Structures) is already implementing this technological marvel. Touted as a *research institute without walls*, with an administrative centre located at the University of Manitoba, ISIS Canada links over 200 world-renowned researchers across the country with public- and private-sector organizations who have a vested interest in innovative solutions for building, maintaining, and repairing bridges, roads, buildings, dams, and even telephone poles. ISIS Canada is one of 14 Networks of Centres of Excellence programs, a permanent feature of the federal budget which basically exists to link research concepts to commercialization. As a Networks of Centres of Excellence program, ISIS Canada covers an area identified as critical to Canada's future – rebuilding infrastructure.

ISIS Canada is creating an environment in which contractors, manufacturers, suppliers,

Mandatory Professional Development Program – Volunteers Wanted for Pilot Project

This Association's Mandatory Professional Development Program (MPDP) Sub-committee will be conducting a pilot project regarding the MPDP from approximately October, 1997 to February, 1998.

If you are interested in participating in this project (please see article on cover page), please advise the APEM office.

Proponents or opponents welcome! □

designers, and investors accept its innovative technology as conventional. While there are many different applications of the technology, three general attributes remain constant:

FIBRE-REINFORCED PLASTICS – that are up to six times stronger than steel, 80% lighter, non-corrosive and non-magnetic;

INTELLIGENT OPTIC-SENSORS – which are built into fibres to gather information, thereby giving smartness to a structure;

REMOTE MONITORING – whereby structural information can be transmitted to a computer anywhere in the world.

Through demonstration projects and other commercialization activities, the receptor capacity of industry will reach the point where advanced composite materials and intelligent sensing in bridges and structures become the norm. This will be achieved by:

1. Assisting industry and government in researching ideas;
2. Advising on current activities, problems, and technicalities;
3. Facilitating demonstration projects initiated by others;
4. Demonstrating the technology's relevance and benefits;
5. Drafting design details for applying new technology;
6. Aiding manufacturers incorporating the technology;
7. Tutoring designers, manufacturers and contractors, and;

8. Training researchers to work with industry and government.

Having just published its first Annual Report, ISIS Canada is moving from its genesis to a new phase with increased emphasis on technology transfer. Since its inception in the fall of 1995, ISIS Canada has teamed up with 40 industrial partners in applying ISIS Canada technologies and materials to infrastructure projects such as bridges, parking garages, ground anchorages, piers, and other concrete structures. An impressive list of demonstration projects across the country already exists and continues to grow.

British Columbia: Waterloo Creek Bridge

Alberta: Crowchild Bridge, Clearwater Creek Bridge

Manitoba: Headingley Bridge, Maryland Bridge, North End Water Pollution Control Centre, ISIS/Farox Filament Winding Research Facility

Ontario: Chatham Bridge

Québec: Webster Parkade, Université de Sherbrooke, St. Étienne de Bolton Overpass, Champlain Bridge

Nova Scotia: Salmon River Highway Bridge

Prince Edward Island: Confederation Bridge

For a copy of the ISIS Canada 1997 Annual Report, please contact:

Jennifer Redston, Public Affairs Officer,
ISIS Canada, University of Manitoba, Room 227
Engineering Building, Winnipeg MB R3T 5V6

Phone: (204) 474-8506 Fax: (204) 474-7519

E-mail: jredston@cc.umanitoba.ca □



Ruth Eden, P.Eng., Project Engineer – Manitoba Dept of Highways & Transportation, Dr. Sami Rizkalla, ISIS Canada President and Theme 4 Director, and Walter Saltzberg, P.Eng., Director of Bridges & Structures, Manitoba Dept of Highways & Transportation beside a completed bridge girder precast by Con-Force Structures.

STAFF REPORTS STAFF REPORTS STAFF REPORTS STAFF REPORTS STAFF REPORTS

Executive Director's Report



D.A. Ennis

Most of the activities of the Association are reported elsewhere in this publication by committee Chairs, the President, and the Director of Admissions. This report is confined to matters not addressed by them.

Membership

The status of, and changes to, the membership over the year are:

| | |
|-----------------------------------|--------------|
| Membership on July 31, 1996 | 3,584 |
| Plus registrations | 134 |
| transferred-in | 31 |
| reinstatements | 12 |
| | +177 |
| Less resignations | 102 |
| transferred-out | 2 |
| deregistered | 53 |
| deceased | 10 |
| | -167 |
| Membership on July 31, 1997 | <u>3,594</u> |
| The breakdown by categories is: | |
| Full members | 3,103 |
| Non-resident members | 275 |
| Retired members | 167 |
| Deferred dues members | 23 |
| Life members | 26 |
| | <u>3,594</u> |

Of the 134 members who were registered with APEM, 66 are residents of other provinces who are also members of their provinces' engineering Associations. We welcome them to APEM.

GST and Dues

Members will notice when they receive invoices for their 1998 dues that they will again be required to pay GST. However, as was mentioned last year, members employed by GST registrants, including the provincial and federal governments, will be able to claim a rebate for the full amount of the GST when they file their income tax returns. The claim is made using Revenue Canada's Form GST 370E (92/12). Copies of the form are available through Revenue Canada and the Association office.

The Council, when considering the resolution on this matter adopted at the 1996 Annual Meeting, took into consideration the net cost to the membership. In so doing it was guided by an

analysis which indicated net savings in the \$20,000 range.

The payment of members' annual dues in 1998, with GST included, will be \$218.00. The Council has decided that, since the designated fund is at an appropriate level, there will not be a By-law 43 (Discipline By-law) assessment. There will not be an increase in the annual dues for EITs, retired members, or members or EITs paying deferred dues.

Operations

As Treasurer, I report that the Association is in a sound financial position. The level of reserves is such that it could sustain operations for in excess of one year.

Memorandum of Understanding with CTTAM

As was reported at the 1996 AGM, and later in the MPE, the Association signed an MOU with The Certified Technicians and Technologists (CTTAM) in October, 1996. There has been additional work on the undertakings of that MOU. A joint focus-group session with members of both APEM and CTTAM was held to consider the answers to anticipated questions on the MOU. It is expected that a joint document will be issued by the time of the AGM.

Memorandum of Agreement with the MAA

The Association has entered into a Memorandum of Agreement with the Manitoba Association of Architects (MAA). The agreement was signed following a Special Meeting on April 29, 1997. In addition to setting out some principles, the agreement provided for a Joint Board to provide guidance as to the need for, and the extent of the need for, different tasks or services to be performed or provided by the professionals on any specific building on which an owner, developer or other consumer, architect, professional engineer, or regulatory agency has applied for review and guidance. The Terms of Reference of that Board are close to finalization. It is expected that the Board will be operating by the time of the Annual Meeting.

Vision and Strategic Plan

As was reported in the April MPE, the Council has adopted a vision and undertaken a strategic planning process. One of the outcomes of the process has been the increased focus on professional development and continuing competence. The plan will also enable future Councils to be focused and consistent in guiding the Association.

Proposal for a New Act

The Association provided the Minister of Labour with a proposal to replace The Engineering Profession Act with a new Act which, among other things, will also provide for the inclusion of geo-

Director of Admissions' Report



S.M. Matile

Between August 1, 1996 and July 31, 1997, this Association received 330 applications. Of these, 15 were referred to the Board of Examiners for the assessment of academic credentials, 137 were enrolled as Engineers-in-Training (EITs), 66 were registered as out-of-province members (in accordance

with the Interim Inter-Association Mobility Agreement), 31 were transferred in from other provinces, and 12 were re-instated to membership. In addition, 56 non-resident Canadian and U.S. Engineers were granted temporary licences to practise engineering in Manitoba.

The Association's Pre-Registration Program continues to keep the Admissions staff and the Experience Review Board extremely busy. This year, the Board conducted 437 EIT file reviews, and recommended the registration of 69 EITs, all of whom were subsequently registered by the Registration Board. Of these, 63 were "grandfathered" in under the two-year work-experience requirement, and six were four-year EITs.

This year, The Experience Review Board also established a process for the consideration and evaluation of exceptional engineering work experience obtained prior to academic qualification. (Normally, all engineering work experience must be obtained after academic qualification.) Four applicants for special consideration were interviewed, and two of them, both with extraordinary experience as aerospace technologists, were given credit for some of their work experience prior to their completion of APEM's examinations.

We are currently in the process of revising the Terms of Reference for the Experience Review Board, along with its Operations and Procedures Manual. The proposed revisions are extensive, as we continue to refine and improve the process.

This year, both examination sessions were run, as part of a national pilot project, by our colleagues in Ontario. The concept of nationally set and marked exams has been very well-received across the country, and we are now in the process of creating a permanent national examination program.

The APEM Professional Practice Seminar and Examination was conducted three times, this year - twice in Winnipeg and once in Thompson. The Thompson session went extremely well,

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COMMITTEE REPORTS

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Annual General Meeting Committee



K.J. Puckall, Chair

In 1997 the Annual General Meeting Committee has undertaken its most challenging program ever attempted. The AGM this year will feature a full day of professional development activities followed by the annual meeting. It is packed with information sessions, and the opportunity to provide the feedback to Council which they require in arriving at the goals and directions for the forthcoming year. The AGM Committee continues to develop the Annual General Meeting to encourage the membership of APEM to participate in this process, as it is most fundamental to the successful operation of the APEM.

In the last few years, a primary issue of the AGM has been the Professional Development Program which has been proposed to ensure ongoing competence in the membership. This

Members

M.J. Coyne
B.C. Jorowski
R.R. McKibbin
B.R. St. Amant

year we will continue this process with a comprehensive presentation on the proposed program during the professional development sessions on Friday, October 17, 1997. A second session will be held on the internal workings of APEM to help enlighten interested members on the disciplinary process. The sessions also will include technical presentations and more generic topics focusing on our changing workplaces and lifestyles. The Committee, along with President Mal Symonds, has managed to get an excellent group of speakers to stimulate the minds of the attending engineers.

Through the thoughtful and creative efforts of the committee members and the untiring assistance of Dave Ennis and Joan McKinley, the AGM continues to grow and improve with more interesting and informative programs plus a great opportunity to meet new and old friends in business and social settings. This year we have a new promotional item for APEM which will be given to those attending the AGM; please come and get one for yourself.

Attendance at the AGM continues to improve but we have a long way to go in making the AGM a significant event in the calendars of the APEM membership. I thank the members of the Committee for their efforts this year and welcome our newest member Michael Coyne, EIT, who has added to the process with his thoughts and comments. As always, our thanks to Dave Ennis and Joan McKinley. They make being a volunteer very easy.

See you at the AGM on October 17 and 18, 1997 at the Niakwa Golf and Country Club. □

Research and Development Committee



J.C. Bégin, Chair

Members

T. Bjarnason
L. Dacombe
D.J. Fedirchuk
R.J. Hamlin
D. Knells
E.E. Lach
D.M. McCartney
D.G. Osman
A.J. Pollard
E.A. Speers
D.R. Strang
K.N. Tandon
J.B. Thorsteinsson
M.G. Britton,
(Liaison Councillor)

The Research and Development (R&D) Committee has a mandate to keep Council and members informed of scientific research, technological development, and innovation in Manitoba and Canada, and to identify the implications of these activities on Association members and the public.

The R&D Committee met eight times during the past year. A major activity of the Committee is to host luncheon meetings on topics related to research and development either in Manitoba, or having direct impact on the Engineering Profession in Manitoba. Presentation topics of interest to a broad cross-section of the Association Membership are selected. All presentations are videotaped, and copies of the tapes in VHS format are available at the Association office for loan to members. Reports on R&D Luncheons also appear regularly in the *Manitoba Professional Engineer*.

During the year, the committee hosted four luncheon presentations and co-sponsored one other, on the following topics:

- Distance Education: More than Technology, by M.G. Britton, P.Eng.
- The Environmental Technology Industry: Overcoming the Barriers to Commercialization, by J. Lukacs, P.Eng.
- Manitoba Space Port, by Lawrence Prout (co-sponsored with the local chapter of IEEE)
- Lighting Technologies for Tomorrow – a Manitoba Success Story – J.R. Lovell Inc.
- The Confederation Bridge, by E.B. Loewen, P.Eng.

This year, the R&D Committee also began the practice of regularly publishing articles in the MPE under the heading, "The Life Cycle of an Idea". These articles highlight innovation and

Cont'd on page 11

Legislation Committee



B.D. MacBride, Chair

Members

R.M. Gordon
D.W. Gunter
J.S. Hicks
R.J. Houston
R.A. Johnson
D.A. Ennis,
APEM Staff
S.M. Matile,
APEM Staff
D.N. Spangelo,
(Liaison Councillor)

This year, APEM forwarded the draft *Engineering and Geoscientific Professions Act* to the Government of Manitoba. The draft act included many revisions as a result of the consultations that were reported on last year. The Committee attempted to address as many of the comments as possible.

Outside of committee meetings, committee members worked with other agencies to make the

legislation effective. This included work with CTTAM (Certified Technicians and Technologists of Manitoba), the Manitoba Association of Landscape Architects and the Manitoba Land Surveyors. A separate group achieved a Memorandum of Understanding with the Manitoba Association of Architects.

Everything looked good and the government initially said that it would be putting forward the legislation this fall. However, the Manitoba Association of Architects was not satisfied with several aspects of the Act and let the Minister know. Accordingly, it will not be brought to the Legislature until these concerns are addressed. A process is in place to work on this. Other concerns have been raised as a result of changes to the draft proposed by the government's legislative consultant, such as the removal of the exclusion clause for natural scientists. Hopefully, this clause can be reinstated.

The next big job for the committee, which we didn't really start this year, will be to re-write the By-laws to be consistent with the revised Act.

Thanks to the members and the staff for their guidance and ideas on every issue. Again this year, Dave Ennis put many extra hours into the work. □

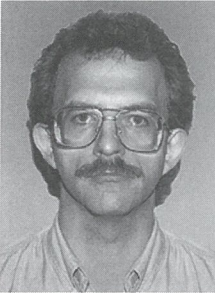
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Public Awareness Committee



R. Bernhardt, Chair

Members

D. Dankewich
A.M. Gole
A. Pollard
D.C.H. Prowse
J. Prendergast
W. Jackson
J. Giesbrecht
B. Thomson,
(Liaison Councillor)

The PA Committee's objective is to increase public awareness of the role that the engineering profession plays in our society. This is done in order to ensure support for APEM's legislated mandate, and in order to encourage individuals to consider engineering as a profession. The objective is fulfilled in a number of ways, such as organization of National Engineering Week events, participation in and/or sponsorship of similar events organized by other associations or interest groups, placement of newspaper advertisements, and preparation of public-awareness literature.

The majority of the committee's time and energy during this past year was devoted to National Engineering Week '97, which occurred in the first week of March and which featured a variety of competitions, displays and demonstrations. The opening event was a celebrity Egg Drop competition, during which Premier Filmon and members of his cabinet took on members of the print and broadcast media in making a device that would cushion an egg when dropped from a step ladder. The competition received a great deal of positive media attention.

The ever-popular Spaghetti Bridge contest was again held, with a record number of participants. This year also featured the reappearance of the Whizzer competition, for which participants built a device to quickly traverse a tensioned cable.

A display area in Polo Park Mall showcased the products and services of a number of firms which employ engineers. The display area elicited a great deal of attention from the public. This attention increased when members of the Biomedical Engineering Association demonstrated a variety of different devices.

The Committee thanks the large number of Association members and EITs who had a hand in ensuring that NEW '97 was the most successful yet staged.

The PA committee continued its association with the Manitoba Schools Science Symposium

through monetary support of the organizing committee, and by providing special awards for engineering-related projects. The winning projects were again selected by APEM members who volunteered to act as judges.

The PA committee also continued to provide support for the University of Manitoba Handbook by sponsoring an advertisement.

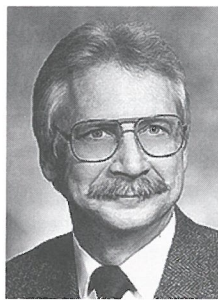
The PA committee has had a long association with the Innovators in the Schools project, which is under threat of being shut down due to funding cutbacks by the federal government. The PA committee, at Council's direction, made a commitment to provide sponsorship funds to Innovators over a three-year period, beginning this past year, in the belief that this would strengthen Innovators' fundraising efforts.

A significant APEM public-awareness event happened this past year. It did not directly involve the PA committee; however, as it was public-

awareness related, it is reported here. On Saturday, May 31, a full-page advertisement appeared on page A16 of the Winnipeg Free Press. The ad highlighted the role that engineering played in fighting the '97 Red River flood. The initiative for the ad came directly from Council. The ad itself was prepared by an ad-hoc committee of APEM members with assistance from Wordsnorth International.

Membership activity saw Caroline Nieuwenburg resign from, and Wally Jackson, Jim Prendergast and James Giesbrecht join, the PA committee. The committee would appreciate hearing from individuals interested in joining the committee, or in helping out in some way with National Engineering Week '98 activities, to be held the first week of March. Companies interested in showcasing their accomplishments during National Engineering Week are also welcome to participate. □

Awards Committee



D.G. Osman, Chair

Members

L. Ferchoff
E.E. Lach
N. Maksymiw
S.H. Rizkalla
C.L. Stewart
C.V. Thio
D.A. Woodford

The Awards Committee is responsible for providing recommendations to Council for the recipients of APEM Awards and for nominees for the CCPE Awards.

There have not been any candidates nominated for the CCPE Awards this year, as the CCPE has changed the schedule for its awards to align more appropriately with its Annual General Meeting schedule in order to maximize the effectiveness of the awards. There will be nominations for CCPE awards flowing from the Awards Committee in the next session.

Owing to the need and desire to seek improvement in all that we do, the Awards Committee sought to refine the process of evaluating the candidates in a manner which would be more objective. The normal charts and nomographs were explored and utilized, coupled with weighted averages and baseline values. Ultimately, we were able to reach decisions with which Council concurred. The process was by consensus on each of the points of consideration leading to a conclu-

sion which all agreed was the most appropriate.

After much deliberation of the many candidates proffered by the membership and from the carry over of some very good candidates, the Awards Committee was able to identify two very worthy candidates to submit to Council for their consideration. Council has concurred with the nominations and they will receive their awards at the next Evening of Recognition, to be convened in the fall.

It is the pleasure of the Awards Committee to advise that Council has awarded the APEM Outstanding Service Award to Dr. Doug G. Chapman, P.Eng. and the Honourary Life Membership Award to Charlie R. Bouskill, P.Eng. We wish them every opportunity for continued success in all their future endeavors. They are truly fine examples of role models for all professional engineers and have contributed significantly to the public's image of engineers in Manitoba and Canada.

We on the Awards Committee are confident, as is Council, that you will find these members of the APEM to be very worthy of their respective awards. Congratulations to both of you, and thank you very much for your contributions to the APEM and society in general.

It is important that the membership contribute to the process of nomination of members of this profession for the APEM awards and also for the CCPE awards. There are many diamonds out there and the few members on the subcommittee are not familiar with all of them. Please help the committee to continue to continue to find the best candidates for these awards.

I would like to thank Joan McKinley and all the Awards Committee members for their efforts over the past 12 months. It has been a pleasure. □

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Safety in Engineering Practice Committee



F.A. Roberts, Chair

Members

M.S. Anderson
D.E. Cross
M.G. Britton
A.O. Dyregrov
M.J. Frye
B.P. Gojkovic
R.E. Gottfred
W.T. Jackson
P.T. Sims
J.V. Weiszmann
L.P. Williams
K.J. Pratt,
(Liaison Councillor)

The Safety in Engineering Practice Committee (SEPC) considers a broad range of issues related to ensuring the public's safety through the design and construction of engineering works. While not normally dealing in occupational or workplace safety issues, we have had an opportunity to confer with the Province's Workplace Safety and Health Branch on engineering-related matters.

Many of the issues dealt with by the committee are handled by sub-committees composed of experts in the specific field of consideration. The following report gives an overview of some of these issues:

Snow Loading on Buildings - NBC 1995

Many members will be aware of the urgent bulletin sent out to designers advising of significant changes to the manner in which snow-drift loading on roofs is to be calculated. These arise from new provisions in the 1995 issue of the National Building Code. This Code issue will shortly be adopted in Manitoba as the Manitoba Building Code, 1995.

The revised calculations were not necessarily evident to designers since they appeared initially as the "First Errata to the User's Guide - NBC 1995, Structural Commentaries" and so were not reflected in the Code or the original Commentary documents.

Snow loads calculated under the new formulas have been found to be more than double the loading calculated according to the previous Code issue.

Engineers must be aware that there are serious implications for existing roofs on large building structures. It may be necessary for designers to examine these implications and determine if any remedial work should be recommended.

The notice has been sent to other engineering associations and we have had some feedback from designers in other provinces who were previously unaware of the situation.

The Committee will continue to study the technical data which gave rise to the Code change

and we anticipate issuing further bulletins to the membership.

Joint Failures in Hollow-Core/Cast-In-Place Concrete Wall-To-Floor Connections

The sub-committee began its work last year to examine the performance of floor to wall joints in buildings which utilize hollow-core floor slabs together with cast-in-place concrete walls.

The sub-committee was established in response to problems reported with the initial construction and subsequent performance of these connections in a Winnipeg structure.

The sub-committee has worked together with the University of Manitoba to conduct full-scale load testing of typical joints to determine if this is a matter of more wide-spread concern.

The SEPC will provide an update to the membership when recommendations are received from this sub-committee.

Building Envelope Sub-Committee

The Building Envelope Sub-Committee studied the design and construction issues relating to poor performance of building envelopes in our climate. The committee has continued to follow up on the response from government, industry and the University to the recommendations in the report published by APEM.

Designers should be aware that there may be increased responsibilities relating to Part 5 of the 1995 Manitoba Building Code.

Open-Web Steel Joists From Robb Engineering

The Committee received a notice from the Association of Professional Engineers and Geoscientists of Newfoundland alerting us to the possible hazardous condition of open-web steel joists produced by Robb Engineering of Amherst, Nova Scotia, during the period of 1970-1985.

The committee made inquiries and is not aware of any of these joists having been shipped to the province of Manitoba. However, if members should come across information on these open-web steel joists relating to installations in, or around, the province, they are requested to report this to the SEPC.

Manitoba Workplace - Safety Guidelines for Access Scaffolding

As a follow-up to the report of the sub-committee which looked into the scaffolding failure at the Health Sciences Centre, members of the committee met with Workplace Safety and Health staff. We participated in a review and commentary on the new guideline published by Manitoba Labour for the design, construction, and erection of scaffolding.

Members who are interested in obtaining a copy of this guideline may contact Workplace Safety and Support Services Division of Manitoba Labour at 1000-330 St. Mary Avenue, Winnipeg.

Regulation of Farm Buildings

The committee engaged in discussions of the application of postframe buildings for farm and commercial applications in response to a member enquiry.

The committee revisited the larger question of the regulation of farm buildings in the Province of Manitoba. This is an issue which will undoubtedly spawn continued discussions for some time to come. The committee has serious concerns over the lack of regulation for both design and construction of farm buildings throughout the Province.

These are the highlights of a number of issues which have come before the Safety in Engineering Practice Committee. I invite any of our Association members who may become aware of engineering practices which could potentially give rise to an unsafe condition to pass on such information to the committee or to the registrar. Enquiries or submissions will be dealt with in confidence where requested.

On behalf of the committee, I wish to extend my thanks to Mr. Dave Ennis for his continuing efforts on our behalf. I also wish to extend my thanks to every member of the committee and sub-committees for their diligent service. □

Discipline Committee



R.E. Scouten, Chair

Members

K.A. Buhr
R.A. Kane
B.R. King
D.M. Kilgour
W.C. Lee
A.M. Lohse
G.A. Morris
D.G. Osman
D.N. Spangelo,
(Liaison Councillor)

At the time of writing this report (August 9) the Chair struck a panel of four members of the Committee to hear a charge made by the Investigation Committee against one of the members of APEM. The results of the hearing will be published in the *Manitoba Professional Engineer*. In this case, as in all cases, the members of the Discipline Committee are charged with the prime responsibility of ensuring the defendant's right to a fair and impartial hearing. Much effort is put into this responsibility by the panel members.

The committee responded to one request from the Investigation Committee to review a penalty imposed on one APEM member.

The limited number of cases brought to the Discipline Committee continues to affirm the ability of the Profession to govern itself.

Thank you to the Committee members who have agreed to serve at formal hearings, if required. □

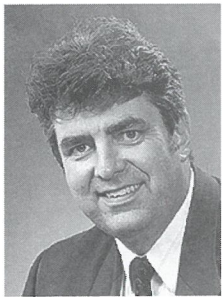
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Experience Review Board



A.D. Silk, Chair

Members

D.T. Anderson
C.R. Bouskill
R.J. Eschenwecker
D.S. Jayas
J.F. Lavergne
J.D.G. McInnis
P. Stanus
C.D. Torpey
S.L. Ursel
M.E. Wilkins
R.E. Willms
C.L. Stewart,
(Liaison Councillor)

The Experience Review Board assesses the experience of engineers-in-training and determines when they have sufficient experience to register. Engineers-in-training are required to submit semi-annual accounts of their work experience, professional development, and professional service. A board member will review each submission to ensure that work experience is of an engineering nature and that professional development and service requirements are met. The member will report their findings at a

monthly meeting of the Board. Each board member will have approximately three to four files to review each month.

The Experience Review Board depends on timely and detailed assessments by both the engineer-in-training and the engineering supervisor for this system to work effectively. When this occurs, the Board is able to give valuable feedback to the engineer-in-training. The timely evaluation will ensure that engineers-in-training are advised promptly if the board has a concern with their work experience.

We demand a lot from the people in the pre-registration program and we determined during the past year that we were not always doing our part in dealing with reviews in a timely manner. To improve the process, we have adopted a set of standards which should ensure that engineers-in-training will receive feedback within two months. These standards not only deal with how files should be handled by Board members, but also set requirements for attendance at monthly meetings.

The Experience Review Board was in desperate need of an engineer from the aerospace industry to review files this year. After a fairly exhaustive but unsuccessful search within our association, we received a tip that Harry Sevier, formerly of Bristol Aerospace and enjoying retirement in British Columbia, might agree to

help us review some files. He agreed and his help in reviewing these files has been invaluable.

During the past year, Pat Feschuk, Joe Lucas, Bob Partridge, and Brian King resigned from the Experience Review Board. Pat had been the Chair since the inception of this board. All will be missed. Stu Ursel stepped down as Vice-Chair but will remain on the Board. Eric Willms agreed to replace Stu as Vice-Chair.

I would like to thank the remaining members for their continued dedication to this process and the new members for agreeing to participate in this process. □

Consulting Engineers Committee

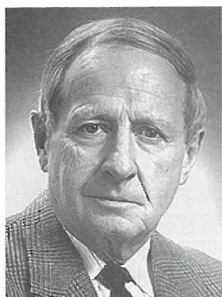


D.G. Mulder, Chair

Members

K.G. Bolton
I.R. Dewar
R.J. Houston
A.J. Kettler
W.J. McCulloch
R. Menon
R.H. Payne
B.J. Rossen
T.L. Stratton
J.A. Thomson
E. Weismann
K.J. Pratt,
(Liaison Councillor)

Investigation Committee



W.M.A. McDonald,
Chair

Members

D.E. Cross
T.H. Gillman
D.G. Hodgkinson
R.P. Hoemsen
R.A. Johnson
E.I. Lexier
W.J. McCulloch
J.R. McDougall
I.H. McKay
J.A. Terris
S.L. Ursel
D.J. Kramble,
(Liaison Councillor)

The Investigation Committee is involved in the investigation of complaints and concerns received from both the public and members of the Association. The actions of the committee are conducted under the authority of By-Law 43 and guided by the Act, the Code of Ethics, and the Mission Statement of the Association:

"To serve and protect the public interest by governing and advancing the practice of engineering in accordance with the Engineering Profession Act of Manitoba."

In the last year the committee held nine meet-

ings. In addition, there were numerous sub-committee meetings to consider the various files. A total of 19 files were reviewed. Of these, one was referred to the Discipline Committee, seven were dismissed, four others were dismissed based on a newly instituted arbitration process, and five formal cautions were issued. Two files are still active.

Types of Complaints:

- Seven complaints were brought forward with respect to works involving residential buildings.
- Five complaints resulted from situations where an engineer was concerned with the action of another engineer.
- Seven complaints resulted from concerns of various agencies and individuals on the work and conduct of engineers.

The committee was saddened by the death of a member of long standing, Frank Fowler. Frank had served continuously for 25 years on the Investigation Committee and the predecessor Practice and Ethics Committee. His wise counsel, dedication, and presence will be missed.

The Committee welcomed D.J. Kramble as the new Liaison Councillor for the committee.

Support staff, as in the past, has provided enthusiastic and dedicated service, in numerous cases before and after normal working hours. The assistance of Laverne Johnson, Charlie Bouskill, and Dave Ennis allowed the committee to function in an effective, efficient manner. □

During the year, nine meetings were held. The Committee considered and dealt with a number of items. An overview of some of the more significant items follows:

- The Committee recommended that a Memorandum of Understanding between the APEM and the Association of Manitoba Land Surveyors be developed to address jurisdictional issues between the two organizations. A sub-committee has been established and several meetings between the two groups have taken place.
- The Committee met with a representative of the Manitoba Building Officials Association and supported their initiatives to become recognized as a profession consistent with similar groups in other provinces.
- Discussions took place with representatives from both the Manitoba Association of Architects, the Association of Consulting Engineers of Manitoba, and the Winnipeg Construction Association with a view to better educate all groups involved in the design-build process.
- Appendix A of the Guide for the Engagement of a Consulting Engineer was updated for the current year.

The Chair thanks the Committee members as well as Dave Ennis and the APEM staff for their valuable assistance. □

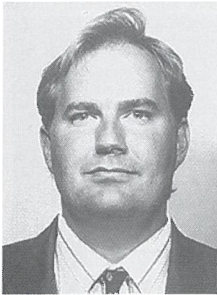
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Publication Committee



C.P. Gray, Chair

Members

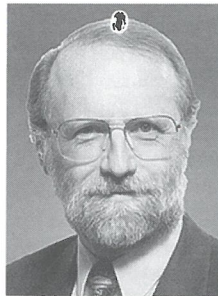
S.C. Alford
A.E. Ball
M.E. Baril
J. Bogan
B.A.K. Danielson
B.A. Dobran
V.L. Dutton
A.N. Kempman
J. Lucas
W.G. McKay
B. Stimpson,
(Liaison Councillor)

You may recall from last year's Publication Committee report that the committee set a goal to continue to produce a professional and informative newsletter for the membership. In addition, we wanted to expand the content to include more discussion on the Association's affairs. This is somewhat of a bold step, since the MPE has traditionally only presented factual and conclusive information. In this regard, we have been partially successful in our objectives and will continue to pursue this objective so that more members can take a greater role or at least have a better understanding of the affairs of the Association as they develop. This objective has been supported by the April MPE reader's survey. As well, we had hoped to cover more topics not related to civil engineering, which we still need to improve upon. Having said this, I believe we have provided a professional and informative newsletter to the APEM members in the past year. In addition to the regular duties of writing, proof-reading, editing, prioritizing articles, and organizing the MPE, the committee has updated its terms of reference this past year.

Marc Baril, EIT has joined the committee this year. He is very active, writing articles and editing. As well, Dr. Brian Stimpson, our Liaison Councillor, has been actively contributing to the MPE and has consistently given good advice to the committee. Unfortunately, Halina Zbigniewicz and Len Ganetsky have moved on to pursue other interests. Both Len and Halina have been long-serving committee members and their contributions to the committee will be missed.

I would like to take this opportunity to thank the other committee members, as well as Shirley Matile and Lorraine Dupas from the APEM office, for their hard work, dedication and the good times we have had this past year. □

Board of Examiners



D.G. Chapman, Chair

Members

K.M. Adam
S. Balakrishnan
E. Bridges
D.H. Burn
D.S. Jayas
W.M. Kinsner
R.W. Menzies
R.J. Partridge
H.M.H. Soliman
K.N. Tandon
D.M. Weiten
M. Yunik
B. Stimpson,
(Liaison Councillor)

The Board of Examiners assesses the academic credentials of all applicants who are not graduates of programs accredited by the Canadian Engineering Accreditation Board (CEAB – one of the standing boards of the Canadian Council of Professional Engineers) with a view to ensuring that everyone registered with the Association has attained a level of education at least equivalent to that attained by graduates of CEAB-accredited programs.

The Board uses the degrees, transcripts, syllabi, and any other information provided by the applicants, to determine whether, and which, technical engineering examinations should be assigned. The examinations are selected from 11

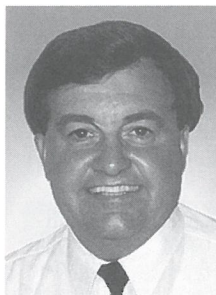
syllabi prepared by the Canadian Engineering Qualifications Board (CEQB), another standing board of CCPE. Joan McKinley, the Secretary to the Board, then arranges for the preparation of examination papers and organizes the examination sessions. The Board monitors the progress of candidates who have been assigned examinations, evaluating and re-evaluating performance, as required, until it is satisfied that they are academically qualified for registration. The Board is also responsible for establishing the date of academic qualification, following which the engineering work-experience may be considered.

During the past year, the academic qualifications of 15 new applicants were assessed, and 19 assessments were reviewed and either modified or confirmed. In addition, two thesis topics were approved, five candidates were allowed to substitute courses for examinations, and seven candidates were declared academically qualified.

The Board also debated and made recommendations to CCPE regarding proposals for changes to the operation of the CEAB and for changes to the CEQB syllabi. The Board continually reviews its operation and is working towards consistency with other provincial associations in the evaluation process and with revised recommendations from the CEQB.

I would like to thank the members of the Board for their valuable contributions. In addition to those listed above, F.S. Qie, C.D. Anderson, D. Polyzois, and A.D. Gerrard also contributed but are no longer on the Board. I particularly wish to thank Joan McKinley for her continued and extremely valuable contributions to the work of the Board. □

Enforcement Committee



B.R. King, Chair

Members

R.L. Kennedy
R.J. Partridge
N.B. Ulyatt
M.G. Britton
(Liaison Councillor)
J.M. Symonds
(Liaison Councillor)

The Enforcement Committee's mission is to ensure that those practising, or professing to practise, engineering are properly registered. Specific action was taken on numerous items brought forward to the Committee throughout the year. The committee established a set of five categories, from monitoring drawings and submissions, to monitoring employment advertisements to ensure that engineering functions required

applicants to be registered. A detailed flowchart and action table were developed by the committee members for each category and approved by Council.

Council has asked the Enforcement Committee to develop, as an "Act Awareness Initiative", an action plan for making personal approaches to corporations which engage engineering services. The objective is to sell the concept and the value of the corporation's employees and/or consultants being professional engineers.

To accomplish this important priority, the Enforcement Committee, with representation from other Committees, will be conducting action plan meetings for implementing the program this year. This is a very exciting project and if you are interested in assisting us, please give me a call.

The committee would like to thank all members of APEM who have assisted in achieving our mission. A special thanks to Dave Ennis and the staff of APEM who have helped the committee in pursuing our enforcement initiatives. Engineers can help the Committee by notifying any member of the committee if they have any concerns or suggestions, or know of any potential need for enforcement. □



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Professional Development Committee



R.J. Bruce, Chair

Members

T.J. Cornell
V.L. Dutton
W.T. Jackson
B.C. Jorowski
G. Kibria
K.J.T. Kjartanson
S.D. Spicer
H.M. Turanli
E. Eddy,
(Liaison Councillor)

The Professional Development (PD) committee has primarily been occupied by three activities during the past year:

- organizing its 'PD Breakfast' Meetings,
- developing the Tech-Net initiative,
- working with APEM Council to develop a Mandatory Professional Development Plan.

The PD breakfasts continue to be popular and well-attended. The following topics were presented during the past year: Manitoba Hydro HVDC Transmission Line Failure; Risk Management; The City on your Desktop (a presentation on the City of Winnipeg's LBIS System); ISO 9000 Local Impact, Global Benefit; and The Building Envelope. The PD Breakfast Meetings incorporate technical and general PD topics and the committee attempts to cover as many engineering disciplines as possible. Suggestions for topics at future PD breakfast meetings are always welcome and may be made to any PD committee member.

TECH-NET is an initiative of the APEM to work with other technical organizations to publicize each others' PD activities and to offer as wide a range of PD activities as possible to each others' members. Planning for this initiative has recently focused on using the World Wide Web to accomplish this. TECH-NET will be incorporated into an APEM website that is being developed. The APEM Council has approved funds for a pilot project to work with a small number of organizations and develop a prototype to test this concept. It is expected that this project will go into operation in the winter of 1997. It will offer APEM members information on a variety of PD activities organized by several other technical organizations.

A sub-committee of the PD committee has been formed to develop a Mandatory Professional Development Program (MPDP) for the APEM. The PD committee began work on this initiative at the request of Council in February, 1997. Following the defeat, at the 1996 APEM AGM, of a proposal for a program to have members report

their PD activities, a motion was passed to investigate a Continuing Competency (CC) program, a sub-committee was struck and began to develop the PD part of the CC program. The sub-committee has sought and received direction from Council on several occasions during the development of the MPDP and has also reviewed the PD activities of other Canadian engineering associations, which it continues to monitor. A PD program has been drafted for the APEM, adapted from a similar program now in place for Alberta engineers and geoscientists. A focus group meeting was

held in June, 1997 to get initial feedback on the draft program from APEM committee members. A recommendation was made to Council to test this program in a pilot project. Council decided to conduct a six-month pilot test of the MPDP, to begin following the 1997 AGM, and to finish in February, 1998. There will be a session at the AGM to discuss the draft MPDP, and all APEM members are encouraged to become involved in its further development. The draft MPDP is available from the APEM office, and your comments on it would be appreciated. □

Women in Engineering Advisory Committee



E.S. Swatek, Chair

Members

B.A.K. Danielson
C. Gedder
W.J. Hamlin
M.S. O'Laughlin
K.F. Olischefski,
(Liaison Councillor)

WEAC's mandate is to attract and retain women in the engineering profession. Ongoing activities include timely responses to relevant issues such as reviewing funding requests for women in engineering initiatives, celebrating achievements of outstanding women engineers, and protesting inappropriate articles appearing in trade magazines.

Once again, at WEAC's recommendation, the APEM provided financial support to the Capitalizing on Today's Challenges Conference. The majority of WEAC members actively participated in the organization and delivery of this conference for potential engineering students, engineering students, engineers-in-training, and practising engineers.

The flexible workplace subcommittee developed the framework for its flexible workplace document. The document should be completed in 1997-1998.

WEAC was represented on the Canadian Coalition for Women in Engineering, Science, and Technology (CCWEST), and supplied content for the CCWEST home page.

WEAC members reviewed the proposed Mandatory Professional Development Program. Meghan O'Laughlin and Brenda Danielson volunteered to participate on the Mandatory Professional Development Subcommittee.

1996-1997 was a year of change. Both Kelly Olischefski, chair 1995-1996, and Kathy Pratt,

vice-chair 1995-1996, resigned from the committee following their election to Council. Kelly subsequently returned as our Council liaison officer. Kim Koshelanyk, chair of the flexible workplace subcommittee, left Manitoba to pursue career opportunities in Alberta. Brenda Danielson joined WEAC and has assumed responsibility for the flexible subcommittee. Meghan O'Laughlin replaced Kim as our representative to CCWEST. Another long-standing member of the committee, Irene Mikawoz, has left the committee. Irene remains active as the organizer of Capitalizing on Today's Challenges Conference. Carolyn Gedder has taken on the vice-chair responsibilities.

All Committee members are thanked for their dedication and hard work as they assumed many new responsibilities during this transition year. Thank you, Shirley Matile and the APEM office staff, for your assistance throughout the year. □

Research & Development Committee

Cont'd from page 6

entrepreneurship in Manitoba. Articles published this year included:

- *Assistance Programs for Industrial Innovation*, by D. Strang, P.Eng. & E.E. Lach, P.Eng.
- Book review: "*In Quest of the Bright Idea*", by Roy Mayer (reviewed by D. McCartney, P.Eng.)
- "*We Must Have Been Insane*", (article about Retro-Specs, Ltd.) by D. McCartney, P.Eng.

Thanks to Doug Strang, P.Eng., these articles are also available on the internet at <http://home.cc.umanitoba.ca/~strang/dlc.html>.

One goal of the Committee is to organize a tour of a research and development facility on an annual basis. This year we toured the facility of Apotex Inc., in Winnipeg.

I would like to thank the committee members for their enthusiasm and their valued and varied contributions to the work of the Committee during the past year. On behalf of the Committee, I would like to thank Kyle Blaquiere and Todd Bjarnason for their services as recording secretary, and to extend sincere thanks to Dave Ennis, Laverne Johnson and other APEM staff for all their support during the year. □

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Sports Committee



Members

- D.G. Bell
- J.F. Lavergne
- D.A. Lecuyer
- K.G. Miller
- J.M. Paterson
- C.N. Perrett
- M.D. Vanderpont

B.W. Biglow, Chair

This past year the Sports Committee organized two golf tournaments and entered relay teams in the Manitoba Marathon. Our most recent golf tournament was held at Quarry Oaks on June 24. There was an excellent turn out with 148 golfers, beautiful weather, and a great meal.

The winning team of Garth Fallis, Bob Heath, Rick Gudz and Dave Hebner finished with an amazing score of 21 under par (assisted by "string") and was awarded the Landon Cup. The second-place team of Doug Stewart, Pat Garrity and Rob Van Ginkle ended the day at 19 under par (assisted by "string") and was awarded the Sullivan Cup. The "string" was sold by the KidSport Fund children's charity and was theoretically used in 300 mm increments to "buy" putts.

KidSport Fund also ran a putting contest after the tournament and raised \$315 towards children's amateur sport. The putting contest was won by Bruce McPhail. Other winners included Ron Brako (closest to the pin #1), George Pratt (closest to the pin #2), Rick Chorneyko (closest to the pin #3), Gary Webster (longest drive #1), and



President Mal Symonds (l) with first-place team...



...and second-place team.



"Putting contest."

Rob McBain (longest drive #2).

Many thanks to all of the organizations that sponsored holes and supplied prizes for the tournament. Your support allowed us to reward all the golfers with a prize, regardless of score.

I would also like to thank the dedicated Sports

Committee members who have all sacrificed many hours to plan and organize these events.

Our committee is always looking for new ideas, or ways to improve our existing events, so please contact one of the committee members with your suggestions. □

VISION

VISION

APEM VISION

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

Nominating Committee



C.L. Stewart, Chair

Members

- C.E. Anderson
- D.G. Chapman
- D.J. Kramble
- E.E. Lach
- W.M.A. McDonald
- D.G. Osman
- H.M. Turanli
- P. Washchysyn
- H.S. Zbigniewicz

The Nominating Committee has the important task of developing and nominating a slate of candidates to run for election to Council.

The Committee started the process by reviewing the information that is provided to candidates when they make the decision to allow their names to stand for Council. To help potential nominees

evaluate their ability to participate effectively in Association activities, we decided to provide details on what is expected from an elected Councillor in terms of personal participation and time commitment.

The Committee considered a long list of possible candidates, developed from previous nominating processes and the list of members participating in Association activities. There will be four vacant positions on Council for 1997-98, and after a careful selection process we are very pleased that seven candidates have offered their names for the ballot.

The Committee also reviewed the requirements for the position of lay councillor, and offered advice which will be referred to during the meeting with the provincial selection committee.

My thanks to the Nominating Committee for their constructive input and contribution to improving the process and developing the slate of candidates. My thanks to Joan McKinley and Dave Ennis for guiding the process and assisting the committee in providing information and guidelines to potential candidates. □

COMMITTEE REPORTS

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COMMITTEE REPORTS

Registration Board



K.J.T. Kjartanson, Chair

Members

J.W. Campbell
W.R. Newton
D.G. Osman
D.I. Waldman
C.S. Roberts,
(Liaison Councillor)

The primary responsibility of the Registration Board is to register members of the Association. This duty is carried out within the policies of Council as laid down in the APEM Manual of Admissions. The Board reviews credentials of candidates and relies on recommendations from the Board of Examiners, the Experience Review Board, and Association staff in making decisions. Additional responsibilities of the Board include the consideration of appeals against decisions of the other Boards and the staff and the review of registration-related issues and provision of recommendations respecting the same to Council.

The Registration Board has continued to be very busy during 1996-97. In this period, the Board held 12 regular meetings and one special meeting to hear an appeal. Insofar as statistics are concerned, during this past year: 137 EITs were enrolled, 66 members were registered under the Mobility Agreement, 31 members were registered by transfer, 69 members were registered for first time, 56 licenses were issued for practice, 12 reinstatements were approved, seven Board of Examiners' recommendations were verified, and one appeal was heard.

During the past year, the Board has continued to work closely with the Board of Examiners, the Experience Review Board, the staff, and Council to ensure that registration procedures are appropriate. In several cases, recommendations were made to Council respecting proposed changes to the Manual of Admissions and/or the Board Terms of Reference. It is intended that an Operations Manual be developed to assist the Board in the carrying out of its duties. As a first step, a major review of the Manual of Admissions is being undertaken, which will include updating and revision of appropriate sections for recommendation to Council.

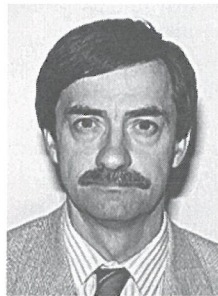
In addition to its baseline work, the Registration Board also reviewed the CCPE Guideline on Continued Qualification Assurance and provided recommendations to Council, made recommenda-

tions regarding the CEQB Proposal for Cross-Jurisdictional Practice, reviewed the CCPE Accreditation Review Committee report, and undertook other miscellaneous duties.

The Board membership has undergone some change over the past year. Carol Roberts, P.Eng., has replaced Arnold Permut, P.Eng., as Liaison Councillor and Jim Campbell, P.Eng., has taken the place of Bill Brisbin, P.Eng., who resigned from the Board. Thank you, Arnold and Bill, for your valued contributions.

The Chair has appreciated the ongoing enthusiasm and dedication of the members of the Registration Board over the past year. The Board wishes to recognize and thank Shirley Matile, P.Eng., Donna Bilodeau, and Dave Ennis, P.Eng., for their ongoing support and assistance which has, once again, proven to be invaluable. □

Salary Research Committee



E.G. Parker, Chair

Members

W. Czyrmyj
L.J. Kuczek
I. Mikawoz
G.R. Norberg
W.B. Todd
B. Stimpson,
(Liaison Councillor)

To satisfy our objective of providing salary information for use by the public and Association members, the Salary Research Com-

mittee conducted its annual employer salary survey this spring. The results were published in an article in the August issue of the *Manitoba Professional Engineer*. This year, there was no employee salary survey, as we have gone back to the biannual survey approach.

This year our employer survey saw a dramatic 50% increase in both employers participating in, and the number of employees represented by, the survey. While the numbers of engineers represented increased, the survey indicated an average reduction in engineer salaries of about 5%. This is a function of the Manitoba market, the de-layering of the organizations, and the sample size of the companies participating in the study.

Thank you to those employers who provided their corporate salary data to the committee. Many thanks to the committee members for their efforts this year, and to Dave Ennis for his continued support. A special thank you to Joan McKinley for her assistance. □

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

Congratulations, Steven!

By: B. Stimpson, P.Eng.

Steven Fletcher, EIT, started the MBA Program at the University of Manitoba in September, 1997. What is so unusual about that, you may ask? Steven is a remarkable young man. Just at the start of a career in mining, after graduating in 1995 from the Geological Engineering Program at the University of Manitoba, his car ran into a moose and Steven sustained critical injuries which left him quadriplegic. Over the last year and a half, he has humbled and inspired those of us who know him, with his great courage and fortitude. Now he has passed the Graduate Management Admissions Test (GMAT) and is registered for an MBA. Our best wishes go with you. Congratulations, Steven!! □

Letter to the Editor

Dear Sir:

The August issue of the MPE has caused me much thought and feelings of thanks for many people.

Firstly, thanks to the foresight of all the clever people that saw the hazards of flooding years before our "flood of the century". Their planning has saved immeasurable heartache and costs.

Secondly, thanks for the efforts of our Forces, both trained and volunteers. These people are the silver lining to the flood tragedy.

Thirdly, thanks for the excellent reporting of the flood conditions including, of course, the MPE coverage.

Thanks, too for the selection of BLUE as the colour used for the "flood" issue. Good choice and certainly much better than the actual colour of our Red River.

Finally, thanks for your cover photo selection which is a 1950 Flood picture of our present home. This is an example of what the City would have experienced if it weren't for the foresight, efforts and sacrifices of Manitoba's best.

This is just one guy saying thanks to all.

*J. Lucas, P.Eng.
Dry & Thankful*

Red River Flood – Engineering Services Compensation Fund

By: E.W.J. Clarke, P.Eng.

Long after the waters of the Red River's "Flood of the Century" have receded, the engineering profession is still working tirelessly to counter the flood's effects.

More than a hundred flood-damaged homes in southern Manitoba are unsalvageable, and several hundred more have sustained serious structural damage, many of them to the point that residents have still been unable to return home.

The primary intent of the Red River Flood Engineering Services Compensation Fund is to enable individual homeowners in southern Manitoba whose homes have been structurally damaged by the 1997 Red River flood to receive professional engineering services at little or no cost. Such flood victims may qualify for a grant of up to \$1,000 to help offset the cost of the services. The engineering services, as well as the grant, are invaluable for residents who need the best possible advice on whether to restore their living accommodations and if so, how best to do so.

The Red River Flood Engineering Services Compensation Fund was initiated by *l'Ordre des ingénieurs du Québec* (OIQ), and is based on the

OIQ program which addressed the Saguenay flood disaster in 1996. Contributions to the Fund have been received from almost every provincial and territorial engineering association in Canada, as well as from the national body, the Canadian Council of Professional Engineers (CCPE). The initial amount available for the Fund was \$87,200. The deadline for applications to the Fund is December 1, 1997.

APEM has established a volunteer committee to administer the Fund, which was announced on July 10, 1997. The start date for applications was July 14. By August 7, the Red River Flood Engineering Services Compensation Fund had already been fully committed to grants for the initial 125 applicants.

Applications are still being received as of the beginning of September and are still being processed (because the initial applicants are unlikely to use all the funds that were allocated to them). The total number of grants will therefore eventually exceed 125. Because this number is small compared to the total number of homes damaged by the flood, an attempt is being made to secure additional funding.

Executive Director's Report

Cont'd from page 5

scientists as a regulated and self-governing profession. The proposal has encountered some difficulties with objections from other related professions, most significantly from the MAA. The Council is continuing to work with the MAA and others with the objective of reaching agreements before the Act is considered by the Legislature.

Compensation Fund for Engineering Services

As was reported in the August issue of the MPE, the Associations across Canada established a fund to assist victims of the 1997 Red River Flood by subsidizing the cost of engineering services for restoration and flood-prevention work. The \$87,200 fund, which included a \$10,000 contribution from APEM, has been administered through the APEM office and is expected to provide assistance to approximately 130 homeowners.

Not unlike others, this year has been one of challenges and changes. Without a dedicated staff and a committed cadre of elected and appointed volunteers, the wheels of self-governance would grind to a halt. To each of them I express my sincere appreciation. □

Director of Admissions' Report

Cont'd from page 5

with lawyers Richard Swystun and Kelly Dixon each delivering two modules to 18 participants at the Inco plant. Cathy Stewart and Roger Blunden

delivered an excellent module on professionalism, and a videotape of Adrian Battison's presentation on intellectual property, patents, etc. completed the program. The Winnipeg sessions continued as a three-day "weekend" seminar in the fall and a series of weekly evening sessions in the spring, with Richard Swystun, Kelly Dixon, Adrian Battison, Wells Peever, and Dick Johnson all delivering their "regular" modules. Thirteen EITs and professional engineers took the examination in Thompson, 82 in Winnipeg, and three remotely. Everyone passed. However, it should be noted that Council has recently decided to raise the passing grade from a D (50%) to a C (60%), commencing with the next session.

Please remember that the Professional Practice Seminar is open – and recommended! – to all engineers. It is an excellent professional development activity!

Other current activities in the admissions area include the revision of Council's Manual of Admissions, and the development of an operations manual for the Registration Board. We are also re-visiting the Association's reinstatement policy, and the policy for "reversion" from non-practising to practising membership.

At the national level, APEM signed a letter of intent to "sign on" to the NAFTA engineering mutual recognition agreement. Admissions officials from across the country met with PEO's (the Ontario Association's) lawyer and established national "formulae" for the treatment of NAFTA applicants. This involved a reconsideration of the treatment of all types of applicants – from those institutions in countries with which we have mutual recognition agreements regarding aca-

Engineers in the News

Robert Waddell, P.Eng., managing engineer at the Canadian Portland Cement Association, has been named a fellow of the Canadian Society for Civil Engineering.

The award, made at a recent society banquet in Sherbrooke, Quebec, is granted to senior level members who have made significant contributions to both their profession and society.

Mr. Waddell is a graduate of the University of Manitoba in Civil Engineering.

The number of "Thank You" letters, filled with heartfelt expressions of gratitude, that have been received by APEM shows that those whose homes were flood-damaged greatly value and appreciate not only the generosity of the profession in establishing the Fund but also the competence and extreme helpfulness of the individual engineers who are working to provide the engineering services directly to flood victims. Simply put, engineers are there to help, effectively and swiftly—and, thanks to the Fund, at greatly reduced cost. □

demographic qualifications, to those from engineering schools in countries about which we have little or no information.

What next? Revision of the manuals mentioned will likely take several months to complete. In addition, the Board of Examiners' procedures, which are still at variance with most of the nation, must be re-visited in the near future.

Meanwhile, the proposed Engineering and Geoscientific Professions Act is before the Legislature. It contemplates the registration of geologists, geophysicists and geochemists – although no procedures have, as yet, been developed for this. Rick Lemoine, who replaced Bill Brisbin as representative of the geoscientific community, is currently recruiting volunteers to work with us to address the academic, work experience and "grandparenting" requirements for registration as P. Geos. This will be no small task!

The proposed Engineering and Geoscientific Professions Act also contemplates group practice licensure. Again, no work has yet been done in this area; but if the new Act is passed this spring...

The Admissions staff continues to work very hard to deliver the best possible service to the admissions Boards, EITs, and applicants. My sincere thanks to Admissions staff members Donna Bilodeau, who processes all applications and co-ordinates the Pre-Registration Program, Joan McKinley, who looks after the assessment and examination processes for the Board of Examiners, and Lorraine Dupas, who provides invaluable administrative assistance. Your capable and conscientious contributions are very much appreciated. □

Council Report

Tuesday, July 8, 1997

By: W.G. McKay, P.Eng.(Ret.)

AT WHICH COUNCIL SIGNS THE AGREEMENT WITH NOVELL, REVIEWS MPDP AND CONSIDERS A WEB SITE.

Status of New Act

While the delay on the passing of the new Act until the fall sitting of the Legislature is a disappointment, it does provide additional lead time for such items as the Mandatory Professional Development Program and the preparation for the registration of geoscientists.

R. Lemoine, Liaison Representative of the geoscientists with Council, reported that plans are underway to develop registration procedures for geoscientists under the new Act. These procedures will include "grandfathering" provisions for eligible geologists and geoscientists. Mr. Lemoine advised that there is increasing interest among the members of the geoscientific community in the new Act.

Novell

With legal representatives of CCPE and APEM in attendance, Council agreed to sign the agreement with CCPE and the member associations in the settlement with Novell. APEGBC will be approached later in July and, depending upon consent, the agreement will then be finalized. In essence, Novell agrees to desist in the use of the term "engineer" as in "certified network engineer", but will be able to continue to use the designation CNE. Of interest is that some U.S. State Boards are likewise pursuing Novell on similar arrangements. Moreover, it was noted that there are other major software companies, such as Microsoft, which may be using the term "engineer", and which may raise similar concerns nationally. Even within the province, there are similar situations of misuse of the term "engineer" in computer- and other technological-related industries.

Registration & Licensing – World Wide

As the global economy grows, CCPE, along with the U.S. and six other countries, have been meeting to discuss, and hopefully arrive at standards for the mutual recognition of, professional engineering qualifications. This will be difficult, as some countries register and license, while others only register. There are also a number of other world-wide engineering organizations such as the International Federation of Consulting Engineers and WFEO (World Federation of Engineering Organizations – a federation of learned societies) which may also have an interest in this international program.

Mandatory Professional Development Program (MPDP)

Council is strongly supporting and closely monitoring the progress of this program. Since the new Act will support implementation and enforcement, and since there is now a delay in its passing, Council felt that this may be an opportunity to proceed with some interim plans, such as a pilot project. However, such action should not be taken as a slacking off in the general progress, and it is still the objective to present the program as completely as possible for discussion/approval at the October AGM.

Website and Tech Net

Council reviewed further information and costs for the development of the APEM website and its inclusion of a linkage to organizations offering professional development known as Tech Net. An outline has been prepared by W. Kinsner, P.Eng., of the electrical and computer engineering department, U. of M. It was agreed that there is an ongoing requirement for some staff support to update the website, and especially the Tech Net, if it is to be effective. A subcommittee was established to recommend policies regarding the nature of the information to be carried on the Tech Net.

Budget

Council approved the budget which included a small increase in fees (from \$214.00 to \$218.00, including GST).

With a lengthy agenda, heavy discussion, and the loss of a quorum, Council adjourned at 5 p.m. with several items to be dealt with at a later meeting

Marathon Relay Results

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

In June, the APEM colours were trotted out again by two relay teams participating in the Manitoba Marathon. The weather was perfect, the flood was over, and a great time was had by all (unless you got stuck in the traffic lineups at Osborne or Bishop Grandin).

Team Professional Engineering One comprised Dave (the Whistle) Whitmore of Vector Construction, Hilmi (Turbine) Turanli of Manitoba Hydro, Bounding Jim Bailie of Bailie Surveys, Murray (What's the hurry) Vanderpont of James Richardson International, and Roger (the Raptor) Boychuk of UMA Engineering. Professional Engineering One completed the course in a very respectable 3 hours and 17 minutes, or a 7.5 minute-per-mile pace.

Professional Engineering Two team members were: Jim (Transporter) Terris of UMA Engineering running lead and the half-marathon, Turbo Tom Price of United Grain Growers, Steve (The Rocket) Crocket of Kor Products, Tim (Super) Starodub of UMA, and Ed (the Eagle) Ryczkowski, also of UMA. This team did not set any course records. Ed Ryczkowski wants everyone to know that he never doubted someone would eventually turn up at #4 exchange so he could finish the course.

Many other Association members were involved in the Marathon. Werner Remple of Acres ran the full, and Reid Crowther had a team anchored by Todd Smith and Alan Aftanas. Apologies to all those I have missed.

A special mention to Dave Whitmore who ran the lead for Professional Engineering One. Hats off to you, Dave, for your generous donation of a house to a flood family. I couldn't believe it...a house! But there you were on CBC radio. You and your wife deserve praise for that gracious and unselfish act.



Murray Vanderpont handing off to Roger Boychuck. Inset: Tim Starodub handing off to Ed Ryczkowski.

Attention EITs!

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

On January 1, 1995, APEM implemented its Pre-Registration Program. This program is mandatory, for both those of you who were "grandfathered" under the "two-year" work experience requirement, and those of you who are now required to obtain at least four years' engineering work experience before being eligible for registration as professional engineers.

For EITs Who Were "Grandfathered" Under The "Two-Year Rule":

You were required to submit, after each six months of work experience obtained, a Progress Report, describing your previous six months' experience, and naming your immediate supervisor and, where applicable, the professional engineer who assumed responsibility for your work. You were also required to engage in a total of ten hours of professional development activity, acquire at least two professional service points, attend the professional practice seminar, and pass the professional practice examination.

When the program was implemented, those who enrolled as EITs had varying amounts of work experience. Some were close to registration, while others had little or no engineering work experience. Many were university students, with no prospect of obtaining engineering work experience in the immediate future. The requirement was, however, and still is, the submission of a Progress Report following the completion of six months' engineering work experience. Please be

advised that, **after January 1, 1998, only the work experience, professional development activity and professional service activity obtained during the eight months prior to the date of submission of your Progress Reports will be considered.** Please be advised, also, that the "grandfathering" clause terminates on December 31, 1998, and any EIT not registered as a professional engineer by that date will be required to complete the full Pre-Registration Program implemented by this Association on January 1, 1995.

For EITs Enrolled After January 1, 1995:

You, also, are required to submit progress reports every six months. **After January 1, 1998, only the work experience, professional development activity and professional service activity obtained during the eight months prior to the date of submission of your Progress Reports will be considered.** After January 1, 1998, also, the Pre-Registration Program requirements will be treated as a unit – i.e. you will not receive credit for 12 months' engineering work experience until you have obtained at least ten professional development hours and one professional service point. Yes, this represents a penalty of work experience time for non-compliance with the Pre-Registration Program. You will also have to obtain twelve months' approved engineering work experience before becoming eligible to take the professional practice seminar and exam. □

What You Told Us

S.C. Alford, P.Eng.

As you may recall, the Publication Committee ran a survey form in the April MPE. While only ten members responded, we do appreciate the time they took and the information they provided us. The following summarizes the results.

The first question on the survey asked readers what emphasis they wanted placed on a number of subject areas. Respondents rated these subject areas from 1 to 5, (1 meaning they wanted to see extensive coverage and 5 meaning they wanted to see no coverage). The responses were tallied and the following shows the average score for each subject area.

- Association Events (Breakfast/Luncheon Meetings, Social Events, etc.) – 3.1
- Association Business (Council Reports, Committee Reports, Annual General Meeting, etc.) – 2.8
- Technical Articles (technical developments, research results, etc.) – 2.8
- Engineering-Related News (plant openings/expansions, regulatory changes, Engineers in the News, etc.) – 2.6
- Professional Development (dealing with

clients, managing employees, workplace harassment, etc.) – 2.6

- the Engineering Profession (news from other associations, CCPE news, the future of the profession, etc.) – 3.1
- General Interest Related to Engineering ('Did You Know', humor, engineering history, etc.) – 3.3

From these results we concluded that readers want a balanced newsletter that covers a wide variety of engineering topics with moderate coverage of each.

We also asked how you wanted us to report on proposed changes to the By-laws, the Code of Ethics, and the Engineering Profession Act. The results were almost unanimous with members wanting the newsletter to present both sides of these issues.

The only other quantifiable question put to readers asked them to rate the overall quality of the newsletter. We were glad to see that 90% of the respondents felt that the quality of the MPE was either good or very good. That being said, we realize there is always room for improvement, and there were a number of suggestions included in the responses that we will be examining closely.

A criticism we've heard before is that there isn't balance between the various engineering dis-

APEM Conducts Tour of Apotex Fermentation Inc.

By: E.A. Speers, P.Eng.

On June 19, 1997, 27 APEM members enjoyed a tour of the Apotex fermentation laboratories and manufacturing facilities. As there were too many to be conveniently handled through the facilities, they were broken into three groups.

It was an eye-opener for most of the visitors to witness the movement from the fundamental investigation in an isolated laboratory, through the upgrading and culture by techniques of biotechnology, to secure and isolate desired enzymes, to encouraging the enzymes to produce the required products in industrial quantities.

The leader of our group was Executive Assistant Charlene Marks, who ably explained that the important factors for developing "new enzyme applications" for any products are knowing what ingredient to modify, how much to modify, how to measure the changes in materials, and what to do with the modified ingredient.

The plant is a modern, very clean facility – a joy for a chemical engineer – with reaction vessels from the very small right up to 5000-gallon capacity.

While most enzymes are used in industry for brewing barley, making sweeteners from starch, modifying dairy products (pasteurization), terpene ester synthesis, fruit-juice processing, heavy-duty detergent manufacturing, and retarding staling of white bread, Apotex produces "Lovastatin", which is used as a cholesterol-lowering agent. □



ciplines, with an over-emphasis on civil engineering. We hope this imbalance can be rectified by recruiting committee volunteers not from a civil engineering background.

Other members' responses asked us to better identify upcoming seminars and conferences.

In closing, I'd like to remind all members that your input is critical. If you would like to submit an article or idea, do not hesitate. By the same token, if you see something you don't like or something that can be improved, we want to hear from you. You can reach us by mail or fax through the APEM office. □