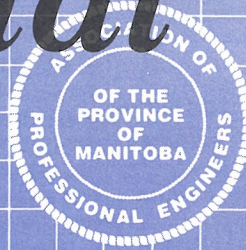


Professional Engineer



October, 1988

IMPROVING WINNIPEG'S BRIDGES

by E.W.J. Clarke, P.Eng., Director, Streets & Transportation, City of Winnipeg



Midtown Bridge — open grid steel deck — 1983.

Midtown Bridge — 1988.

The City of Winnipeg lies at the confluence of two major rivers, the Red and the Assiniboine. A number of lesser rivers and creeks also flow through the city. The major rivers

were once principal routes of travel during the eras of exploration and of early trade and settlement, but have since become barriers to transportation within the City.

As a result, many major bridges, as well as many other lesser waterway crossings, have been constructed within the City limits during Winnipeg's 115 years as a City, to carry streets and urban highways over the rivers and streams of Winnipeg.

These bridges, some dating back almost to the turn of the century, and the overpass structures at railway crossings and at grade-separated traffic interchanges, have been subject to wear and tear due to use, aging, destructive road contaminants, and the harsh environment. Design codes to which the bridges were originally constructed have been superseded with resulting shortfalls in load capacity in some instances.

As well, however, even certain relatively new structures have been subjected to unexpectedly severe and premature deterioration, due to the application and action of chloride de-icing chemicals which came into extensive use on the street system during the 1960's, and due to increased vehicle weights unanticipated at the time of their construction.

For example, since 1970, two major increases in allowable truck load limits have been implemented, with a third and even more major increase now under consideration, having already been endorsed by the Province of Manitoba.

Rehabilitation Program

To overcome these problems, over the past
(continued on page 3)

ASSOCIATION OF PROFESSIONAL ENGINEERS OF MANITOBA

69TH ANNUAL GENERAL MEETING

OCTOBER 28, 1988 — Holiday Inn Downtown

AGENDA

- | | |
|------------|---|
| 8:00 a.m. | Breakfast Meeting "The Future of Engineering" — Dr. Philip Lapp, P.Eng. |
| 9:30 a.m. | Registration |
| 10:30 a.m. | Official Opening by President |
| | Notice of Meeting |
| | Introduction of Head Table |
| | Introduction of Guests |
| | Minutes of Annual General Meeting of October 19, 1987 |
| | Declaration of Councillors Elected |
| | Auditor's Report |
| | Appointment of Auditors |
| | 1988/89 Budget |
| | Nominating Committee Appointments |
| | By-law Amendments |
| | Reports from Committee Chairmen |
| | Resolutions |
| | Greetings from C.C.P.E. and other Associations |
| 11:30 a.m. | Members Reception |
| 12:30 p.m. | Awards Luncheon — |
| | Presentation of Awards & Scholarships |
| 2:00 p.m. | Panel Discussion |
| | "Legal Liability of Engineers" |
| 3:00 p.m. | Question and Answer Period |

(Bring this Agenda to the Meeting)

THE MANITOBA

Professional Engineer



October, 1988

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LICENCES ISSUED IN AUGUST AND SEPTEMBER

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G. Benkendorf (Alta.)	G.J. MacDowell (Ont.)
D.B. Burnes (Alta.)	T.C. McCavour (Ont.)
W.R. Christopher (Alta.)	M.J. O'Connor (Alta.)
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D.K. Hall (Ont.)	J.M. Strong (Alta.)
J.E.A. Hofman (Alta.)	D. Weinreb (Ont.)
L. Ivic (Ont.)	V.F. Wilcox (Ont.)
	C.N. Williams (MN.)

*With Deep Regret,
The Association Records the Passing Of
J.R. Herman, P.Eng.*

Letters to the Editor

Re: Geologists and Geophysicists

Having spent 10 years in Alberta, where professional geologists and geophysicists can be identified as such, I read with interest William C. Hood's letter in the August 1988 issue of the Manitoba Professional Engineer.

I do not agree that the current situation in Manitoba should be retained until such time as "the number of geologists and geophysicists reaches a numerical level justifying separate identification." The case for implementing separate identification cannot rest on such a pragmatic matter as numbers but on the basis of public protection, if deemed significant, and correct use of the word "engineer".

Provincial associations across Canada spend much time and energy in contacting businesses who are misusing the term "engineer", yet at the same time they permit registered geologists and geophysicists to use the P.Eng designation. Fortunately, because of the ethical requirement not to practice outside one's area of expertise, the use of the P.Eng. stamp by geologists and geophysicists is unlikely to endanger the public. However, is it not time to explicitly recognize the differences between our professions and to be consistent?

Finally, there is a discipline which incor-

porates engineering, geology and geophysics in its academic programs and in professional practice, namely Geological Engineering. In 1988, Geological Engineering, an accredited engineering program in the Faculty of Engineering, University of Manitoba, celebrates its 50th Anniversary. We are grateful for the geologists, geophysicists, and engineers who have made this landmark possible. *Vivre la difference!*

B. Stimpson, P.Eng.,
Professor and Head, Department of Geological Engineering □

Re: Professionalism vs. Unionism, Letter of Ms. Craig in August Issue.

I disagree completely with Ms. Craig. She may have many arguments for her view but professionalism and unionism are not compatible.

A union's first loyalty is to itself (self preservation), next to its members and lastly to the public; if it has any loyalty at all to the public.

A professional must first of all consider the public and after that himself and his employer or vice versa.

M.N. Collison, P.Eng.

NEW MEMBERS REGISTERED — AUGUST/SEPTEMBER —

N.C. Arnold	K.L. Kent
B.R. Baron	R.M. Kenyon
H. Behlke	M.S. Kuchnicki
J.L. Boyd	R. Kuffel
S.M.W. Brown	F.W. Loewen
J.C.S. Chan	M.J. Mark
J.R. Chappell	M.J. McKenzie
R.N. Chernish	P.J. Mignacca
W.G. Christie	G.G. Mortimer
F. DeLuca	C.A. Nieuwenburg
D.N. Danard	B.D. Novak
W.D. Doherty	R. Noseworthy
A. Eason	R.V. Parsons
D.M. Evans	W.D. Penny
J.E. Grant	R.D. Peters
T.R. Grimshaw	G.M. Pratt
R.P.S. Han	E.A. Richardson
R.G. Heath	D.A. Rose
M.A. Houvardas	S.R. Russell
A.D. Huffman	D.J. Steski
P.C. Isaak	W.B. Todd
D.R. Jackson	G.K. Waedt
H. Kadoono	J.C. Woods
A.T. Kaita	P.H. Yamada

ENGINEERING GRADUATES — AUGUST/SEPTEMBER —

T.J. Armstrong	C.G. Gulay
P.A.T. Ayiku	J.W. Hall
S.L. Claggett	A.G. Hein
A.J. Dornn	1B.S. Martens
C.E. Geddert	A.M. McDowall

CANNOT LOCATE

Baker, O.R.	McLatchy, R.D.
Broad, P.J.	MA, A.F.
Chang, E.M.	Officer, L.L.
Chow, S.	Ram, G.S.
Daley, C.P.	Rampaul, R.
Dolhun, W.W.	Somerville, K.L.
Gadzella, G.M.G.	Soneff, S.
Harding, R.G.	Stoner, M.G.
Koo, J.	C. Konecki
Kostecky, M.M.	

Congratulations to the following people who achieved 100% on the professional practice examination:

S.L. Claggett	J.C. Woods
G.K. Waedt	P.H. Yamada

MANITOBA ENGINEER RECEIVES SASKATCHEWAN AWARD

R.M. Godse, of R.M. Godse and Assoc. was honoured by Premier Devine at Premier's Design Awards Banquet at the Bessborough Hotel on June 11th. His entry, a unique shoring system for the Hallmark Towers in Saskatoon, received an "Excellence in Design" Award. Congratulations Ram! □

IRON RING — FALL CEREMONY

There will be an iron ring ceremony Camp #8 on Tuesday, November 15, 1988 commencing at 8:00 p.m. in the Tartan Room 2nd Floor of Pembina Hall — University of Manitoba Campus.

For additional information contact Dave Sexton, P.Eng, Camp Secretary at 945-7488. Those wishing to be obligated should contact D. Sexton as soon as possible. □

IMPROVING WINNIPEG'S BRIDGES

(continued from page 1)

decade or so, an intensive planned program of capital bridge rehabilitation and upgrading projects has been carried out, above and beyond the ongoing operating program of inspection and preventive maintenance, but coordinated therewith.

The program's primary objective has been to restore deteriorating existing bridges to a condition meeting current acceptable levels of structural and operating serviceability, incorporating components and materials which will be more durable than those originally used, and salvaging those residual components of the original structure which are still fully serviceable. A fully rehabilitated and upgraded bridge or overpass structure is intended to have a design life approaching that of a new structure.

A subsidiary objective has been to strengthen the bridges, in order to provide load carrying capacity equal to or greater than current load limits, where this can be done for a reasonable incremental cost.

A third major objective has been to incorporate roadside safety features.

Candidates for the program have been prioritized on the basis of regular and special inspections. Before proceeding to detailed design of a bridge rehabilitative project, the condition of the structure is assessed through comprehensive engineering load-rating analysis. The results of the load-rating may be further reviewed through load testing.

The report(s) prepared pursuant to these studies outline rehabilitative alternatives and related cost estimates, including comparison of the relative cost effectiveness of rehabilitation versus replacement, and determination of the feasibility and incremental cost of strengthening.

The studies do not invariably indicate a need for capital rehabilitation or replacement. In certain instances, in terms of both structural condition and design adequacy, a structure when load rated and/or load tested has proved to be fully adequate for extensive further service with only minor upgrading.

In general, the major problems leading to the need to rehabilitate a bridge or overpass structure have been deck-related.

In several instances, concrete decks have become deteriorated due to excessive penetration of the upper portion of the deck by de-icing chemicals, leading to corrosion and expansion of the upper level of reinforcing steel, with resultant delamination, fracturing, and severe spalling. Rehabilitation is then appropriate to improve rideability and more importantly to arrest the deterioration before replacement of the entire deck became essential, a much more expensive step than rehabilitation.

In the case of open grid steel decks, such as were formerly in place on the Midtown and Disraeli Bridges, not only can the deck itself deteriorate (generally through weld failures), but also the underlying structural steel support members can become corroded and per-

forated, and concrete substructure units can deteriorate.

Other structural problems addressed in the rehabilitative projects include: unsealed bridge deck expansion joints; inadequate deck drainage systems; deteriorated traffic barrier rail; and failure of the paint on structural steel members.

Current bridge structural design standards and construction practices to correct and overcome problems with concrete deck and barrier deterioration, and to prevent their recurrence, include: the use of epoxy-coated reinforcing steel; provision of increased concrete cover; avoidance of the use of high-early-strength cement and the use of high density (98% of ASTM-C138) low slump (19 mm) concrete known as the "Iowa Method"; more durable concrete in all applications where the concrete will be exposed to chloride de-icing chemicals and road spray.

These measures are also employed, of course, in the design and construction of new and replacement structures.

The major Winnipeg river bridges and overpass structures rehabilitated to date (including those currently being rehabilitated during the 1988 construction season) are:

- St. James Bridge (Route 90 Southbound) at the Assiniboine River;
- Midtown Bridge at the Assiniboine River;
- Fermor Avenue Bridge (Trans-Canada Highway) at the Seine River;
- Lagimodiere Boulevard Overpass (Route 20) at the CP Main Line;
- King Edward Street Box Culvert (Route 90) at Omand's Creek;
- Nairn Avenue Overpass at the CP Main Line;
- Marion Street Culvert at the Seine River;
- St. James Bridge (Route 90 Northbound) at the Assiniboine River;
- Lagimodiere Boulevard Overpass (Route 20) at the CN Main Line; and
- St. Vital Twin Bridge at the Red River.

At the current rate of progress and budget expenditures, most of Winnipeg's remaining major structures, which require rehabilitation or upgrading, will have been completed within the next five to ten years.

ROADSIDE SAFETY CONSIDERATIONS

A significant proportion of traffic injuries and fatalities occur through collisions between vehicles and roadside objects. For example, during 1972, a total of more than two thousand such roadside collisions occurred in The City of Winnipeg, resulting in ten fatalities and almost five hundred injuries.

Accordingly, since 1975, the annual capital estimates for Regional Streets have included a program for Roadside Safety Improvements, with the objective of obtaining a safer arterial street environment in which the severity and frequency of collisions with roadside obstacles is substantially reduced.

In accordance with current safety standards, impact attenuation devices and traffic barriers are installed to reduce the hazard represented by substantial roadside obstacles such as grade-separation-piers and overhead sign structures. In the case of street light stan-

dards, the appropriate safety measure may be relocation, or installation of a breakaway base.

Attainment of an improved standard of roadside safety is not, of course, limited to "retrofit" of specific safety devices and removal of individual existing hazards where feasible. It is implicit also that, when constructing new transportation facilities or rehabilitating existing facilities (whether streets or structures), modern roadside safety standards should be employed consistently.

With respect to bridge and overpass structures, until 1976, acceptable practice had involved incorporation of a picket-type combination traffic/pedestrian bridge rail at the outer edge of the pedestrian walkway.

Such barriers have, however, the disadvantage — due to their vertical posts and pickets — of potentially "pocketing" impacting vehicles, and thus imposing excessive and abrupt deceleration forces on any colliding vehicle and, more importantly, on its occupants.

As well, through being located well beyond the so-called barrier curb at the roadway edge, the angle of impact may become greater, and errant vehicles may, in the extreme, be "vaulted," increasing the severity of the collision with the bridge rail and the possibility of penetration or even overtopping.

Such post-and-picket barriers, though satisfactory as a pedestrian guardrail, and even advantageous in this regard in that the vertical pickets discourage climbing, are not designed to decelerate a vehicle slowly, nor to redirect and deflect the vehicle gently into a path of travel parallel to the barrier.

Beginning with the design and construction of the Fort Garry Bridge on Route 165 over the Red River, and with the installation of a concrete safety-shape median barrier on the Disraeli Bridge and Overpass in 1978, bridge design standards in the City of Winnipeg have been greatly upgraded in the area of roadside safety.

When bridge and grade separation structures are to be newly constructed or extensively rehabilitated, the current requirement is for traffic barriers with a strong continuous horizontal configuration, at the right edge of each travelled roadway, separating them from the adjacent walkways. Median barriers to separate opposing directions of traffic are also generally installed on longer bridges and/or on those with narrow median boulevards.

The concrete safety shape traffic barrier is the preferred traffic barrier in either location, as it provides safer redirection of all classes of vehicles, and has lower maintenance and collision repair costs than any other traffic barrier. The aluminum traffic barrier is also an acceptable measure, particularly on an interim basis on existing structures unable to support the additional weight of permanent concrete barriers.

While the principal reason for placing the barrier between roadway and walkway on all

(continued on page 4)

(continued from page 3)

newly constructed or reconstructed bridge and grade-separation structures has been to ensure more effective vehicle barriers, additional secondary benefits result. Pedestrians are obviously discouraged from venturing onto the bridge roadways. Pedestrians also have a greater feeling of security on such structures. If the barrier is the concrete safety shape, pedestrians are effectively protected not only from collision with vehicles but also to a considerable degree from splash and spray.

Pedestrians, when surveyed, have endorsed the current standards despite the narrower sidewalks which may result when concrete barriers are incorporated in the rehabilitation or upgrading of an existing bridge.

The use of the concrete safety shape on bridge and grade-separation structures has been severely criticized on esthetic grounds and on the basis that the view is obscured for persons within vehicles on such structures. The Department has been accused by the press of having "a paranoiac regard for

vehicular safety," and is said to "play it too safe" and to have ignored the "human dimension." The converse of this accusation would be of infinitely greater concern, i.e., if the Department were accused of having compromised safety to attain the worthwhile, but distinctly subordinate, objective of esthetic merit, which is in any event very much a subjective consideration.

In summary, a single barrier at the outer edge of a bridge sidewalk is a compromise which cannot meet current vehicle barrier standards for both strength and functional (safety) performance.

To date, with certain exceptions such as the median barrier on the Disraeli "Freeway," it has been possible to undertake comprehensive roadside safety improvements on existing major bridges only in conjunction with extensive rehabilitation projects required in any event to correct structural deficiencies. It is obvious that, due for example to budget constraints, all desirable roadside safety installations cannot be carried out instantly; and the rehabilitation program described above has therefore formed a

logical context for completing appropriate roadside safety works on existing structures within a reasonable period of time. Clearly, it is economically desirable to avoid throw-away costs which might be incurred if bridge traffic barriers were replaced in advance of scheduled future structural rehabilitation or upgrading works.

However, at this time, consideration is being given by the City to whether there is a warrant for "stand-alone" roadside safety improvement projects on selected major structures and whether such projects should be undertaken in advance of the need for overall rehabilitation and structural upgrading, while minimizing throw-away costs.

As well, further improvements in the rehabilitation techniques and roadside safety standards will be investigated, to improve performance further, and to attempt to overcome the criticisms that have been levelled, but without compromising the fundamental and essential requirements for strength and for functional performance of traffic safety barriers. □

CONSTRUCTION OF STRUCTURES LABORATORY BEGINS

by G.A. Morris, P.Eng.

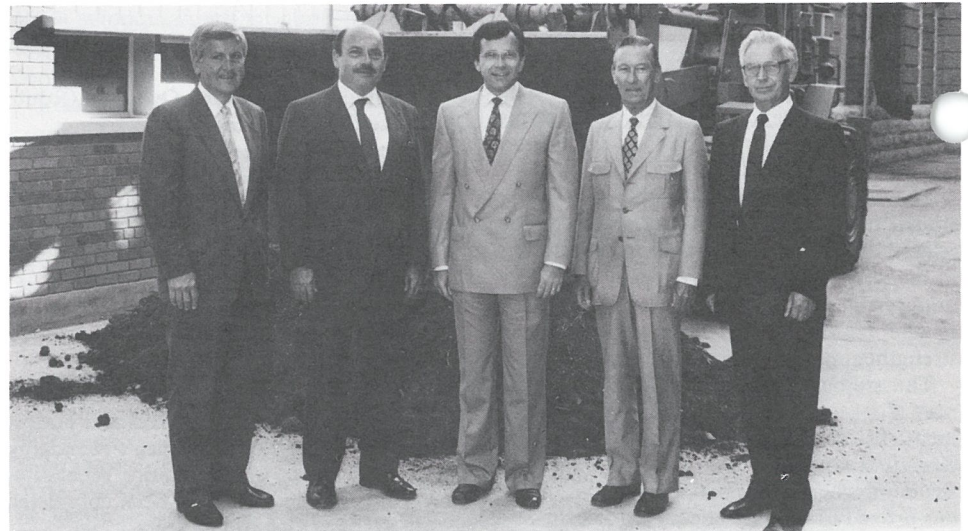
At 8:00 a.m. on Thursday, July 21, approximately 150 members of the Manitoba engineering and construction community attended a ground breaking ceremony officially kicking off the construction of the new Structures Testing Laboratory at the University of Manitoba. The one million dollar laboratory is being built primarily through donations of goods and services by engineering, architectural, construction and manufacturing firms. Seed money has been provided through a \$78,000 grant from the Western Diversification fund, and a grant from the City of Winnipeg covering the cost of all permits.

In welcoming those present, Dean Kuffel paid tribute to Civil Engineering professor Sami Rizkalla and his students, who developed the conceptual plan for the laboratory. He then expressed thanks, on behalf of the Faculty of Engineering, to all of those who are contributing to the project.

President Arnold Naimark thanked Mr. Ray McQuade, a Past Chairman of the Board of Governors of the University of Manitoba, for spearheading the project. This is the second time that Mr. McQuade has undertaken the construction of a campus facility at no cost to the University. Mr. McQuade thanked all of those individuals and firms who have graciously responded to his prodigious powers of persuasion.

Mr. Leo Duguay, M.P., brought greetings on behalf of the Federal Government. He commended the project, noting that it is precisely the type of private sector-government initiative that the Western Diversification Fund was designed to support.

Despite other commitments later in the day (the opening of the Manitoba Legislature), Premier Gary Filmon attended



Mr. Leo Duguay, M.P., President Arnold Naimark, Premier Gary Filmon, P.Eng., Ray McQuade, P.Eng. and Dean Ed Kuffel, P.Eng., at ground breaking ceremony.

the ceremony to bring greetings from the Government of Manitoba. Noting that he had earned two degrees in the Civil Engineering Department, he expressed particular pleasure in seeing the project materialize.

Taking the controls of a large machine with a front end loader, Dr. Naimark demonstrated that facility with things mechanical is not required of a university president. Nonetheless, he managed to break the ground with only minimal damage to the Engineering Building.

Contributors to the project to date include:

Cowin Steel Co. Ltd.
G.B.R. Associates
W.L. Wardrop & Associates
Crosier, Kilgour & Partners
U.M.A. Spantec Ltd.
Scouten Mitchell Sigurdson & Associates

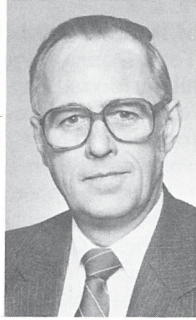
V.K. Mason Construction
Dyregrov and Burgess
Hughes-Owens (Manitoba) 1985 Ltd.
Xerox Canada Inc.
Subterranean (Winnipeg) Ltd.
Con-Force Structures Ltd.
Manitoba Rolling Mills
Stelco Inc.
Dominion Bridge Co. Ltd.
Empire Iron Works Ltd.
Abesco Ltd.
P.M. & L. Reinforcing
Winnipeg Redi-Mix Concrete Association
Finnmac Lumber Ltd.
Hugh Munro Construction Ltd.
Federal Pioneer Ltd.
Manitoba Hydro
City of Winnipeg
Western Diversification Fund

□

A REVIEW OF 1987 - 1988

President's Message

W.D. Christie, P.Eng.



It is traditional for the Association President, in his final message of the year, to provide some thoughts about activities of APEM during his term of office. It is impossible to cover every important aspect, and consequently I refer you to the committee reports included in this issue of the Manitoba Professional Engineer for more complete details.

In the year following the Centennial of Engineering in Canada one might expect a quiet year at APEM with a much lower level of activity. This has not been the case from my perspective. I owe a deep debt of gratitude to all my fellow engineers who have served on Council and the various committees and boards. I will attempt to summarize the results obtained through their hard work and dedication.

This year our Annual General Meeting will have an extended format. I hope the program will encourage APEM members to turn out and participate in the activities on October 28th. The day will start with a breakfast meeting at which Dr. Phil Lapp, P.Eng., past-president of CCPE, will discuss the significance of the study conducted by the task-force on "The Future of Engineering". Following the breakfast meeting, the formal part of the Annual General Meeting will take place, with reports from selected committee chairmen and an opportunity for members to ask questions or seek clarification. Our annual Awards Luncheon will be followed in the afternoon by a panel discussion of the problems relating to the liability of professional engineers. Presentations will be by Mr. Claude Mercier from Encon Insurers and Mr. Paul Walsh, Q.C. of Anhang & Walsh. There will be ample opportunity for questions and discussion from the floor. I hope to see you all there.

During the year our University Liaison Committee hosted a supper meeting with members of the Faculty of Engineering. Council and committee members engaged in an excellent exchange of views with the Faculty on matters of mutual concern relating to engineering education. The wide ranging discussions were enjoyed by all and it was agreed that more frequent meetings of this type would be very beneficial.

During the year our Association's first "Brief to Government" was finalized and on July 11th was presented to Premier G.A. Filmon, P.Eng. and the Minister of Labour,

the Honourable Ed Connery, the Minister responsible for the Engineering Profession Act. Our delegation had an excellent reception. Copies were subsequently mailed to all members of the Legislature. We have received many letters of acknowledgement from MLA's and Ministers, and enquiries relating to the Brief from a number of government departments. The work which Ted Speers and other members of Council put into the brief was well worthwhile and I recommend that future Councils give serious consideration to the preparation and presentation of Association Briefs.

During the year, two of our members, Russ Hood and Ray McQuade, were honored by CCPE when they received Meritorious Service Awards at CCPE's Annual Meeting, held this year in Yellowknife, N.W.T. All of us in APEM can be proud that two Manitoba engineers received these very prestigious National awards.

Len Bateman and his committee were able to arrange for the installation and unveiling of an Association plaque at the Old Pinawa dam site. This plaque commemorates the role engineers played in this early Manitoba engineering project.

Our Practice and Ethics Committee has had an extremely busy year. With the able assistance of our Act Administration Officer, Dave Ennis, they have investigated a number of complaints which were brought to their attention. One of these resulted in Council holding a disciplinary hearing in April and a second is scheduled in the near future.

During the year Council put in place policies relating to travel by Council and staff and to liaison procedures with CCPE.

Two Ad-Hoc Committees were put in place during the year. The first is charged with considering the role of engineers in carrying out inspections and supervision of engineered projects. The second committee is considering ways of implementing group practice licensing in Manitoba (similar to that presently in force in other provinces) and will make recommendations to Council.

Technicians and technologists and their role as a part of the engineering team were the subject of several meetings with MANSCETT representatives. An APEM position paper was prepared and forwarded to MANSCETT for consideration by their Board of Directors. We expect a formal response in the near future.

Two of our Committees (Professional Development and Research and Development) have sponsored successful and informative breakfast and luncheon meetings during the year. I encourage all members to attend these meetings whenever possible.

Dick Menon, P.Eng. from Brandon arranged a dinner meeting to allow Council to meet and hold discussions with engineers located in Western Manitoba. The exchange of views was indeed worthwhile and Council is currently considering a proposal from the Western Manitoba group on the formation

of an informal chapter of Western Manitoba engineers.

Council and the Executive Committee have spent many hours during the past several years considering the management of APEM finances. A policy was developed during the past year and has been implemented on a trial basis for one year. We believe this will result in improved investment income for the Association.

The Practice and Ethics Committee and Council have had a concern for some time about enforcing provisions of provincial engineering acts across provincial boundaries. Through an initiative of APEM, CCPE has agreed to initiate a study into interprovincial reciprocal act enforcement procedures.

The CCPE task force on The Future of Engineering finalized a draft report which included 24 recommendations. Council and its committees have recently had all of these recommendations under consideration with a view to developing a position on each and identifying appropriate APEM actions.

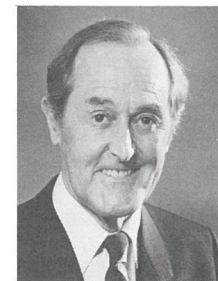
The Association's affairs are managed by a small but very capable staff under the direction of Bill Mackenzie, P.Eng., Registrar and General Manager. This staff provides the support and assistance which has made my year as President a pleasure. Thank you to each one of you. □

COMMITTEE REPORTS

CONSULTING ENGINEERS

Members:

H. Haak
R.C. Isaak
J. Klein
R. Morrison
A. Penman
B.J. Rossen
R.F. Taylor
E. Weiszmann
W.B. Mackenzie
W.D. Christie



D.B. Whittaker, *Chairman*

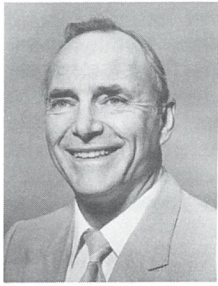
The Committee were very saddened by the passing of D.K. Strang. Doug was a gentleman and a fine engineer and made a very important contribution to the Committee's work.

Welcome to Robert Taylor as a new member of the Committee. Already it is clear that he will be an active and valuable addition.

Many thanks, as always, to the staff at the office and to Mr. Mackenzie and Mr. Ennis for their support, even though we did not contribute much to their work load this past year. □

COMMITTEE REPORTS

REGISTRAR'S REPORT



W.B. Mackenzie,
Registrar

MEMBERSHIP

As Registrar, I can report that a small increase in the Association membership has taken place in the last year. The following table of membership statistics may be of interest to the members. New members in our Association fall into several categories. Most are young graduate engineers who have obtained the necessary engineering work experience to qualify for registration. Some are professional engineers from other provinces who have taken residence in Manitoba. Some are immigrants who have been practising engineering outside of Canada. And some are people who have not graduated from an accredited engineering program but have achieved academic qualification through our Association examination program.

Perhaps the small growth in membership reflects the changes taking place in the engineering workplace where more and more of the repetitive and routine engineering work is being done by computers and by engineering technologists. Formerly, much of this work was done by professional engineers. This trend is likely to continue with more professional engineers becoming managers of engineering work and doing less hands-on engineering.

MEMBERSHIP AS OF JULY 31, 1988

Full Members	2,630	
Non-Practising & Non-Resident Members	479	
Life Members	24	
Total	3,133	
Total Membership as of July 31, 1987		3,040
Plus Registrations	157	
Transfers-In	39	
Reinstatements	22	
		[+ 218]
Less Resignations (Dec. 31)	38	
Resignations (June 30)	10	
Transfers-Out	10	
Written-Off (June 30)	56	
Deceased	11	
		[- 125]
TOTAL MEMBERSHIP AS OF JULY 31, 1988		3,133

FINANCES

As Association Treasurer, I can report that the Association continues to operate on a sound financial base. Our financial reserves have increased during the past year by approximately \$24,000. Association policy is that reserves should be maintained at a figure approximately equal to the Association's expenditures for one year. Due to inflation and an expansion of services a contribution to reserves is necessary each fiscal year to maintain this level. Members' annual fees have not been increased for five years but Council has approved a nominal fee increase for 1989 in order to maintain the appropriate level of reserves.

CANADIAN COUNCIL OF PROFESSIONAL ENGINEERS

Through participation in various committees of the Canadian Council of Professional Engineers, APEM has contributed significantly to matters relating to the profession of engineering at the national and international level. During the past year CCPE has addressed many important matters relating to our profession. The most important has been the finalization of the report of the Task Force on the Future of Engineering. The CCPE has also addressed such important matters as mobility of engineers moving from province to province, uniform standards for entry into the profession in all provinces and reciprocal agreements between provinces on Act enforcement relating to offences by members and non-members.

STAFF

During the past year I have had excellent support from the staff. I am grateful and appreciative of the dedication and loyalty of all

of them. Joan McKinley, Elaine Ryan, Vera Toth, Donna Bilodeau and Dave Ennis have all performed day in and day out in the interests of the Association. The membership is fortunate to have people of such high caliber working on their behalf.

I am also appreciative of the opportunities I have had to work with the many volunteer members of Council and various Association committees — members have given unstintingly of their time and their talents in order that the Association can function and carry out its mandates effectively as laid down in the Engineering Profession Act. □



Joan McKinley.



Elaine Ryan.



Vera Toth.



Donna Bilodeau.

SALARY RESEARCH



S.H. Rizkalla, *Chairman*

During 1988, the Salary Research Committee carried out a salary survey among Manitoba engineering employers. The results were used to produce the 1988 mean salaries for professional engineers in Manitoba. This information is produced for use by the public and by Association members.

During 1988, the Salary Research Committee also evaluated the current APEM job

Members:

C.E. Anderson
B.G. Bettess
D.G. Chapman
W.D. Christie
C.I. Ireland

B.F. Klaponski
W.B. Mackenzie
E.G. Parker
J.M. Symonds
W. McGilvery, *Liaison Councillor*

classification rating system through a survey of major employers of engineers in Manitoba. The study included a comparison of the current APEM Job Classification Guide to seven other such guides used by the other provincial engineering associations throughout Canada.

Many thanks to the Committee members and to Joan McKinley and Donna Bilodeau who assisted the Committee with its work at the Association office. □

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

PRACTICE & ETHICS



D.R. Grimes,
Chairman

Members:

W.R. McQuade
K. Hallson
C.R. Bouskill
R.H. Russell
E.F. MacKenzie
F.A. Jost
W.M.A. McDonald
F.M. Fowler
B.D. Norrie
W. Saltzberg

The committee has had an extremely busy year. Meetings continued throughout the year and included 14 full committee meetings, in excess of 30 sub-committee meetings and many other unofficial meetings. The committee dealt with 17 files and completed one formal hearing. One additional complaint is awaiting further action by Council.

The committee members are also represented on a number of other committees including Ad Hoc Committees on Inspection, Code of Ethics, and Group Practice. During the year it was decided to establish a standing sub-committee to facilitate communications with engineers of the City of Winnipeg Building Inspections Division.

A sub-committee was formed to review By-Law 45, the discipline By-Law, with a view to improving the operation and procedures of the committee. The Association's solicitor has indicated that the Act and By-Law are not clear on the authority of the Association to publish names of members subject to a reprimand. This will be addressed by the sub-committee.

The costs associated with the work of the committee have reduced the funds available under the discipline By-Law. Council was asked to initiate a levy on the membership in 1989 to supplement these funds.

A review of the following matters will indicate that there is a wide variety of types of complaints, many initiated by the public. Growth in the number of complaints can be expected as the general public becomes more aware of the responsibility of a self-governing profession to discipline its members.

The work of the committee places unusual heavy demands on its members. Without the able assistance of the Act Administrative Officer, Mr. Dave Ennis, the committee could not function adequately. The support of Mr. Dave Ennis and of all the members of the committee has been excellent.

Matters Dealt With and Concluded:

The Committee filed a complaint with Council stating that it has reasonable and probable grounds to believe that a member had been guilty of unprofessional conduct in the practicing of engineering which was

detrimental to the public interest and recommended that Council hold a hearing into the complaint. Representation was provided at the subsequent hearing, included participation by the committee's legal counsel. Two special meetings were held in connection with this participation and representation. In the course of the hearing the member pleaded guilty. Following the hearing Council issued a reprimand and ordered the member to pay a contribution to the costs of the investigation and hearing in the amount of \$6,500.00.

2) A member who had been released from employment by another member considered that the employer was in violation of the Code of Ethics. The committee examined the matter and satisfied itself that no specific breach of the Code had occurred.

3) A member advised that a report that he had presented to his client, had been criticized in writing by another engineer and this criticism presented to the client. The committee met with both engineers and concluded that no further action was warranted.

4) The Committee was notified by a member that another engineer may have been involved with a structural failure. It was the opinion of the committee, given certain extenuating circumstances, that an investigation was not warranted.

5) A member in the consulting field advised the committee that a former employee, also a member, prior to leaving employment, had solicited business from his employer's clients for a new company the employee had already established. The committee met with both engineers, considered the documentation and concluded that there had not been a breach of the Code of Ethics.

6) An urban plans approval agency referred a concern to the committee wherein a member appeared to be providing inadequate confirmation of his inspection of site work. This situation was also resulting in unacceptable relationships between the members of the Association. Meetings were held with all parties and agreement obtained to cooperate to ensure the work was properly done and reported.

7) A controversy developed when a client appeared to engage two engineers for the same work. A review of the facts was made and reported to the member's concerned.

8) After an extended investigation, the committee filed a complaint with Council stating that it had reasonable and probable ground to believe that a member has been guilty of negligence and unprofessional conduct in that he prepared drawings which were deficient, were not sealed and that he had failed to define the extent of his responsibility. This complaint is presently before Council.

Ongoing Matters to be Resolved:

1) A rural planning district has brought to the

committee's attention that certain members appear to be providing inadequate engineering services to clients on construction projects in the district. The committee is reviewing the facts and meeting with the members involved.

2) An urban plans approval agency has referred an apparently unacceptable set of plans to the committee. This situation is presently under review.

3) A public project has resulted in a number of engineers commenting publicly on the work of other members. Complaints have been laid and the members notified. The committee is meeting with the parties and assembling the facts. A recommendation is expected shortly.

4) A complaint against a member has been made by a contractor. The member acted as a Project Manager and it is alleged that the member did not authorize payments as required under the contract. The matter is being reviewed.

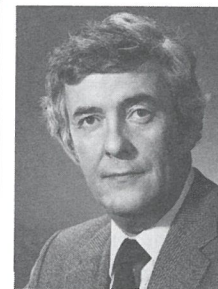
5) A homeowner has laid a complaint against a member alleging that a report prepared by the member was inadequate. An investigation is underway.

6) A resident has filed a complaint against a member regarding the location of a waste water treatment facility. The matter is being resolved. □

AWARDS

Members:

K.A. Buhr
W.D. Christie
F.A. Jost
F.R. Kaita
K.J. Kjartanson
E.E. Lach
G.A. Pratt
R.E. Scouten
E.A. Speers



E.W.J. Clarke, Chairman W.B. Mackenzie

"The function of the APEM Awards Committee is to make recommendations to APEM Council regarding awards to be made by this Association and regarding other award programs (such as CCPE's) in which this Association may participate.

The Awards Program of the Association of Professional Engineers of the Province of Manitoba includes: the APEM Merit Award; the APEM Outstanding Service Award; the APEM Honourary Life Membership Award; and the APEM Certificate of Engineering Achievement.

During 1988, the Association considered the possible establishment of an additional award, the Project Achievement Award; Council, on the advice of the 1988 Awards Committee, decided not to proceed with this proposal at this time, since its objectives can

COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS

largely be met through the APEM Certificate of Engineering Achievement award.

The National Awards Program of the Canadian Council of Professional Engineers includes: the CCPE Gold Medal Award and the Young Engineer Achievement Award (presented at the CCPE Semi-Annual meeting); and the CCPE Meritorious Service Awards for Professional Service and for Community Service (presented at the CCPE Annual meeting). Manitoba candidates have been very successful in this national program in recent years, due not only to the calibre of Manitoba professional engineers but also to thorough, complete and convincing nomination documents researched and prepared by the Awards Committee and by APEM Staff, and submitted to CCPE with APEM Council's approval.

The 1988 Awards Committee held a total of four meetings during April and May of 1988. The fourth and final meeting was on May 30, 1988, at which time Committee decided upon its recommendations to APEM Council. Those recommendations were subsequently adopted by Council at its regular meetings during June and July.

All readers of this publication should be supportive of our profession's award programs. These programs, by providing public and peer recognition of engineering achievements and of service by Manitoba's professional engineers to the engineering profession and/or to the large community, can distinctly contribute to the enhancement of the quality of engineering in Manitoba.

In this connection, in addition to recom-

mending nominees for the APEM Awards and for certain of the CCPE Awards, the 1988 Awards Committee has also suggested, with respect to the lack of award nominations to date from the membership at large, that rather than relying on articles (such as this!) in the **Manitoba Professional Engineers**, the Association should distribute nomination forms to all members.

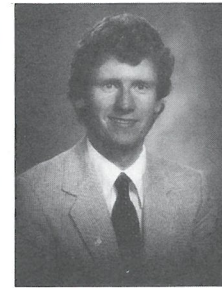
Information regarding the above-mentioned award programs is available through the APEM Office. If you believe that important and worthwhile achievements by a fellow Manitoba engineer have not been adequately recognized, you should submit a letter (or nomination form if Committee's above suggestion is adopted) to the Association. Your submission, with such related information as you are able to provide, and augmented if necessary by Committee research, will enable future Awards Committees to consider nominating that engineer for an appropriate award. Future Awards Committees will be very appreciative of all such assistance from APEM members.

As chairman, I wish to thank the professional engineers very sincerely for their participation, and for their hard and effective work, as members of the 1988 Awards Committee. The 1988 Awards Committee also owes its thanks to Association staff members, particularly Wm. B. Mackenzie, D.A. Ennis, and J. McKinley, for their contribution to Committee's work. That contribution, as always, went far beyond mere assistance." □

PROFESSIONAL DEVELOPMENT

Members:

F.A.E. Belagus
W.D. Christie
V.L. Dutton
D.A. Ennis
J.G. Hildebrandt
E.J. Klein
W.B. Mackenzie
A.H. Permut
S.S. Rihal
S.L. Ursel



B.D. MacBride, *Chairman*

Professional development is continuing education for engineers. The professional development committee was established by Council to establish a voluntary program for professional development to ensure engineering competence. New terms of reference incorporating a work plan were adopted by Council in 1987.

This year (to August 1) we received 126 voluntary professional development reporting forms covering 1987 compared to 121 forms covering 1986. The committee is disappointed with the low number of engineering reporting professional development activities. A summary of the 1986 results appeared in the February **Manitoba Professional Engineer**. A summary of the 1987 results is being prepared.

Breakfast meetings have continued to be sponsored by the committee. Four meetings on the subjects of liability, ethics, APEM, and continuing education were attended by a total of 252 engineers.

The use of the professional development computer bulletin board set up by J. Hildebrandt at Wardrop has been low. The bulletin board provides information on coming professional development activities. It allows users to input information as well as retrieve it. Hopefully it will be used more in the coming year.

The Committee was pleased to observe the national interest in the need for professional development as evidenced by the establishment of a C.E.U. registry by the Engineering Institute of Canada. Also the C.C.P.E. task force on the Future of Engineering has recommended that engineers be offered opportunities to keep up to date and that codes of ethics be strengthened to make it an obligation of engineers to stay abreast of developments in their respective fields of professional practice.

On behalf of all of you I thank members of the committee, liaison councillor Kelly Kjartanson, and APEM staff for their work and commitment to the goal of professional development for engineers. □

PUBLICATION

Members:

P. Gordon	D. Jayas	G. Morris
R. Kane	J. Bogan	T. Murray
L. Ganetsky	V. Dutton	W.D. Christie
J. Lucas	D. Spangelo	W.B. Mackenzie
C. Kohuska		



W.G. McKay, *Chairman*

As of the December 1987 issue, the production of the "Manitoba Professional Engineer" has been under the direction of the Chairman and the Editor Paul Gordon. Paul's major contribution has been the assembly of the material and the masterminding of the layouts ready to go to the printer.

Each issue is also the result of two committee meetings. The first meeting is to review the previous issue, to allocate assignments for Council meetings, interviews, breakfast and noon luncheons, social events, etc. There has been excellent cooperation of the committee members in fulfilling these assignments.

The second meeting is for the review of the

material received either for current publication, or to hold for later editions or rejection. This meeting is then followed by the layout meeting under the direction of Paul Gordon with assistance by various committee members from time to time.

Appreciation is expressed to Vera Toth for her continued assistance throughout the year in the preparation for our committee meetings, for the compiling of materials and not least of all for the provision of ample goodies during our noon luncheons. We also enjoy the support and the company of Mr. Mackenzie and Mr. Ennis who lend their advice and editing.

The fellowship and the humour of the committee members continued to help us through each issue and to encourage all of us to strive to keep the standard that the previous chairman, Kelly Hearson so well established. □

CODE OF ETHICS



C.R. Bouskill, *Chairman*

- Members:**
 E.W.J. Clarke
 D.A.J. Ennis
 F.M. Fowler
 J.S. Hicks
 F.A. Jost
 W.B. Mackenzie
 W.R. McQuade
 R.E. Scouten
 W.D. Christie

The Code of Ethics Ad Hoc Committee was established by Council, in the spring of 1987, on the recommendation of the Practice and Ethics Committee, to undertake an in-depth review of the Association's Code of Ethics. The Code was last reviewed twenty years ago and the Code now in use was adopted on February 28, 1968. In undertaking this review the Committee has endeavoured to ensure that:

- a) the Code contains standards of conduct for members designed for the protection of the public,
- b) the Code does not include any clause(s) which may be in conflict with current human rights legislation, and
- c) the Code addresses matters relating to professional ethics, as opposed to personal and/or business ethics.

The Committee has reviewed the current Code on a clause by clause basis, and has also examined the Codes in use by each of the other Canadian Professional Engineers Associations/Order, as well as the Codes in

use by selected State Boards for Professional Engineers in the U.S.A. and other engineering organizations that have published Codes of Ethics. At the time of writing, the Committee has met on five occasions since the 1987 Annual Meeting, and the members have each devoted time outside of the meetings to reviewing the information available from other organizations. Comments and input have been invited from the general membership of the Association, but to date this invitation has received no response.

What is expected to be the final draft of the proposed revised Code of Ethics is currently being prepared for review by the Committee as a whole, and subsequent submission to Council and the APEM membership. The revised Code of Ethics will encompass three basic elements, specifically:

- a) a statement of Fundamental Principles,
- b) a statement of five Fundamental Canons, and
- c) a series Canons of Conduct, or rules of conduct which outline practices that are to be encouraged and/or define practices that are considered to be evidence of professional misconduct and/or negligence.

I wish to extend my personal thanks to each member of the Committee, each of whom has devoted considerable time and effort on your behalf in undertaking this review, and to APEM President W.D. Christie who has attended and participated in many of the Committee's meetings, as an ex-officio member. We all join in expressing our sincere thanks to Joan McKinley for her cheerful and capable support as secretary of this Committee. □

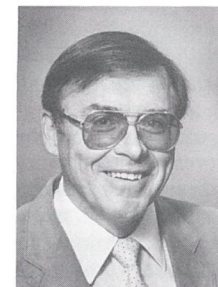
Association to private and public sector organizations and the general public.

- 2) To provide information to high school students regarding the Engineering Profession.
- 3) To encourage awareness by engineering students at the University of Manitoba of APEM activities and the requirements of the Act and By-Laws".

The inaugural meeting of the Committee was held on April 27th, 1988. Initial meetings have focussed on general housekeeping items such as terms of reference, committee membership, budget and a work plan for the coming year. The committee members have decided to strike sub-committees to deal with the three main duties and hope to set achievable objectives for the coming year for the sub-committees.

As this is a "new" committee, any ideas or suggestions, from the general APEM membership, as to objectives or priorities would be appreciated. All Committee members are thanked for their help in this initial organizational period, with a special note of gratitude to Bill Mackenzie, Dave Ennis and Joan McKinley for their very capable assistance and advice. □

ANNUAL GENERAL MEETING



R.R. MicKibbin, *Chairman*

- Members:**
 J.A. Oleszkiewicz
 J.D. Miller
 Ian G. Hogg
 Terry Holden
 B.R. St. Amant
 E.A. Speers
 W.B. Mackenzie
 W.D. Christie

The Annual General Meeting is to be held this year on Friday, October 28, 1988, at the Downtown Holiday Inn.

A full agenda has been planned for the day, beginning with a breakfast meeting organized by the Professional Development Committee, followed by Registration and the Business Session.

Following the Annual Awards Luncheon, the Committee has planned a session "The Problems Relating to the Professional Engineers' Liability" with Mr. Paul Walsh and Mr. Claude Mercier as guest speakers. It is expected that this topic, of utmost concern to all of us in the profession, will generate a most interesting question and answer period.

On behalf of the Committee, I would like to thank W.B. Mackenzie, P.Eng., Joan McKinley and staff for their valuable and capable assistance. □

PUBLIC RELATIONS



K.J.T. Kjartanson, *Chairman*

- Members:**
 D.C.H. Prowse
 D.R. Rocan
 E.F. Glass
 A.F. Eshmade
 W.H. Brant
 R.J. Pietrus
 S.M. Matile
 W.B. Mackenzie
 D.A. Ennis
 W.D. Christie

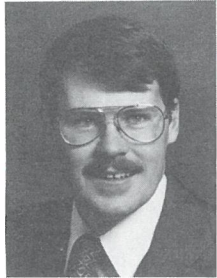
The idea of public relations at APEM is not a new one as a Public Relations Committee existed several years ago. The present Committee, however, is brand new, having been ratified by Council in October 1987 in accordance with an outgoing recommendation by the Ad Hoc Centennial Committee.

The purpose of the Public Relations Committee is "to increase public awareness of the important role the engineering profession fills in society so that the Association will

have public support in implementing its various activities relating to its legislated purpose to govern and regulate the practice of engineering in the Province of Manitoba, and its unwritten mandate to protect the public interest in the field of engineering". In attempting to achieve this purpose, three main duties are recognized:

- 1) To promote the recognition of the Engineering Profession and its various accomplishments and to provide information respecting the role and activities of the

SAFETY IN ENGINEERING PRACTICE



Members:

A.O. Dyregrov
Dr. M.J. Frye
R.E. Gottfred
B.W. Gulay
Dr. D.M. Rogowsky
L.P. Williams
J.V. Weizmann
W.B. Mackenzie
W.D. Christie

F.A. Roberts, *Chairman*

The Safety and Engineering Practice Committee has completed another year as a committee of council.

The function of the Committee is to study safety related problems in engineering practice and to pass on to members information which will help them avoid similar problems. In addition to monthly meetings of the full Committee, sub-committees meet regularly to study individual problems.

Seven subcommittees have been active this year studying a) structural wood arenas, b) interaction of engineers and architects in the construction of building structures using precast slabs, c) periodic inspection of older building structures, d) temporary bracing during construction, e) farm building construction code, f) counterfeit nuts and bolts, and g) fire protection engineering.

Through the subcommittee on "Periodic Inspection" the Committee has recommended to council that building authorities be urged to incorporate regulations whereby owners of building structures in the province periodically renew their occupancy permits based on evaluation of their use and structural condition. The recommendation has come forward because of the number of structures where usage has changed over the years and higher loadings are imposed on the structures than were originally allowed for in design. In other cases older structures have already decayed posing a potential threat to occupants. Since many of the Provinces earliest buildings were constructed 80 to 90 years ago we will see this problem increase in future years and must address it now. I am certain that any of our members who have undertaken structural evaluations of older buildings can relate to this problem.

Through the subcommittee on Fire Protection Engineering the Committee will be hearing a request from the City of Winnipeg to evaluate the courses available to engineers in the design of fire protection systems and related topics under Part 3 of the National Building Code. This is an effort to improve the ability of our members to provide service in this area to the better protection of the public. Engineers who practise in this area and would like to have an input into the

deliberations should write to the Association c/o the Chairman, Safety in Engineering Practice Committee.

Members who may become aware of potentially unsafe engineering practice should pass on such information to the Committee or the Registrar. Inquiries or submissions will be dealt with in confidence where requested.

Finally, on behalf of the Committee I wish to thank Bill Mackenzie our Registrar, Dave Ennis, Act Administration Officer, Bill Newton our Liaison Counsellor and Donna Bilodeau, Recording Secretary for their generous assistance during the year.

STAMPING OF SHOP DRAWINGS

Members:

W.R. McQuade
D.L.T. Oakes
R.L. Steele
K.W. Franklin
G.W. Winch
V.W. Becker
B.W. Gulay
H. Penner
D.A. Ennis
W.D. Christie
W.B. Mackenzie



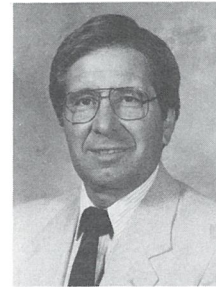
E. Weizman, *Chairman*

Our Ad Hoc Committee held several meetings this year. At those meetings three preliminary reports and one final report were drafted for Council. If this final report is accepted by the Council, our Ad Hoc Committee will have completed its task.

I take this opportunity to express my thanks to the Committee members who, for more than three years, diligently came to our meetings. Thanks are due to Bill Mackenzie, P.Eng., our Registrar, who attended almost all meetings and presented interesting view points, and to Dave Ennis, P.Eng., Act Administration Officer, and our staff who extended valuable technical help in producing the preliminary and final reports.



ADMISSIONS REVIEW BOARD



Members:

J.E. Barnes
C.R. Bouskill
W.D. Christie
W.B. Mackenzie
W.M.A. McDonald
E.A. Speers
D.I. Waldman

G.E. Laliberte, *Chairman*

Since October 19, 1987, the Board has reviewed 34 applications referred to it for recommendation concerning Council's experience requirement for registration. Of these, six were carried forward from 1986-87 and 28 were new.

As of August 8, 1988, the Board considered the experience requirement to have been met by 25 of the applicants and had recommended their admission. In all cases, Council had approved the Board's recommendation. Six applications were being held in abeyance, pending satisfaction of outstanding requirements, and three had been withdrawn.

In reviewing applications, the Board frequently makes a decision at its first consideration of an application based on information provided by the General Manager and Registrar. However, in many instances, the Board requests staff to acquire additional information. In a few cases, a subcommittee is established to carry out a detailed review of the application and to recommend to the Board on the disposition of the case.

The Board reviewed its terms of reference during the year and recommended changes that were subsequently approved by Council.

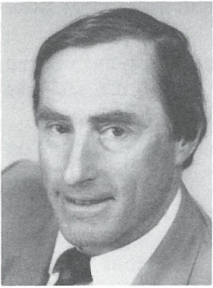
During the year, W.L. Pawlikewich, P.Eng. resigned his membership on the Board and was replaced by D.I. Waldman, P.Eng. Appreciation is extended to all members for their generous time and contribution to the Board's activities.

The loyal and conscientious support of W.B. Mackenzie and Joan McKinley is also gratefully acknowledged.

**Many thanks to
all Committee
Chairmen &
Members for their
Support.**

COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS

RESEARCH & DEVELOPMENT



- Members:**
 M. Kauldher
 D.J. Fedirchuk
 T.R. Hsu
 R. Hoemsen
 D. Osman
 E.J. Klein
 E.A. Speers
 W.D. Christie
 W.B. Mackenzie

R.J. Hamlin, *Chairman*

The Research and Development Committee was formed in January 1987 and considerable effort was made to resolve the Terms of Reference. The object and intent of the R&D Committee is to keep the Council and members informed of research development and innovation and identify and draw to the attention of Council of the implications of research and development relating to current technological and environmental issues and make a contribution to Council for inclusion in Association Briefs to the Provincial Government and also to arrange workshops and meetings relating to research and development for Association members and the public.

There was much discussion by the committee about how to inform the members about R&D which tends to be very narrow and specialized while the members cover the entire scope of engineering. Our conclusions have been to try to have meetings which cover aspects of R&D that need to be understood by anyone involved with R&D. The first topics for the R&D meetings were:

- 1) Innovations and Entrepreneurship.
- 2) AECL Whiteshell Nuclear Research Establishment, and
- 3) Technology and Innovation in the Health Industry.

The next topic will be on R&D in the Free Trade Environment. Future topics that will be considered are Impact of R&D on employment, Techniques for R&D funding, R&D in the Power Utilities, R&D at the Canadian Institute of Industrial Technology Building.

The committee has identified a number of issues that could be pursued because they may be of interest to the members and Council.

- 1) Manpower Training to facilitate Research and Development and eventually high technology industry.
- 2) Promotion of local, and presently developing, industries that have a Research and Development component to them.

Accommodation of the introduction of new industries from outside the Province that supplement, but do not supplant, those listed in item #2.

- 4) Recognition, possibly with statistics, of the

“Brain Drain” of technical people trained at the expense of the taxpayers of Manitoba.

5) Encouraging funding of training entrepreneurship for the university level. One feature could be training on how to seek patents and product approvals such as CSA, etc.

6) Sponsorship of co-operative engineering training programs at the university level, citing the apprenticeship program at Red River Community College as an example.

7) Extension of the present funding of product development beyond the Research and Development phase into the marketing stage.

8) Fostering a program to facilitate research and development in the Health Care Technology field with the intention of ultimately keeping more health care money in the province.

9) Other areas that have a potential for significant advantage through Research and Development for local development and manufacturing are:

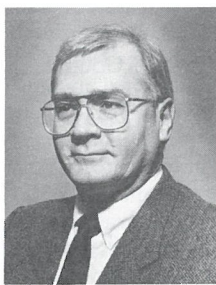
- a) Communications equipment
- b) Biotechnology (food processing)
- c) Transportation

An extension of this would be that the existing base in computer/electronics and general manufacturing would benefit.

The above topics have not been pursued to date but represent ideas and concepts that may warrant further luncheon style meetings or seminars.

My thanks to Vera Toth, our capable committee secretary and other members of the staff for their assistance during the year. □

LEGISLATION



- Members:**
 R.B. Blackman
 D. Ennis
 D.W. Gunter
 J.S. Hicks
 E.E. Lach
 B.D. MacBride
 W.B. Mackenzie

D.J. McIntosh, *Chairman*

The legislation committee has met seven times this calendar year in its continuous study of the Engineering Profession Act and the By-Laws of the Association.

Recommendations for council's consideration have been made on the following By-Laws.

- By-Law 31 — Committees.
- By-Law 38 — 2(a) and 2(b) - Annual Fee.
- By-Law 44 — Engineering Graduate.

By-Law 39 — Removal and reinstatements — is under consideration at this time.

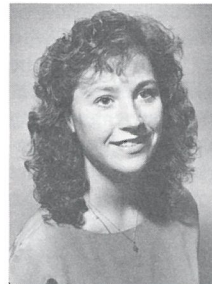
Proposed changes to the Manitoba Land Surveyor's Act continue to be monitored. Through discussion, the Surveyors are well aware of our concern that changes in their Act might in many ways limit the Practice of Engineering as prescribed in our Act.

The work of the committee is accomplished with the able assistance of the APEM staff, in particular Vera Toth, Dave Ennis and W.B. Mackenzie.

Careful consideration quickly shared has made for a productive and interesting year on this committee and I want to thank the members for their continuing high level of interest in their work.

The committee wishes to acknowledge the excellent service of Ed Lach as chairman of this committee over a number of years to January 1988. He continues as a member of the committee. □

SPORTS



- Members:**
 L.B. Birdsell
 H. Wilson
 M.D. Vanderpont
 E.M. Garfinkel
 W.L. Saunders
 T. Murray
 W.D. Christie
 W.B. Mackenzie

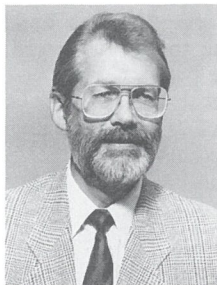
C. Kohuska, *Chairman*

The year began with the annual bonspiel on January 12th, at the Granite Curling Club. There were 23 rinks participating. The President's Cup was presented by President Bud Christie, to the winning team of Murray Vanderpont, Jim Suzuki, Harvey Kaita and Brock Sanderson for the second consecutive year. A total of 40 prizes were presented, thanks to the sponsorship of 11 companies.

On June 28th, at the St. Boniface Golf Course, 112 engineers teed off for the annual golf tournament. Garland Laliberte, representing President Bud Christie, presented Doug Snider with the Landon Cup for the low gross score of 77 and Ron Payne with the Sullivan Cup for the low net score of 67. A total of 19 prizes were presented due to the sponsorship of 10 companies.

Special thanks to the sponsoring companies; without their support the events would not be the success they are. Many thanks to all the committee members and the office staff for your continuing co-operation and support. □

ACT ENFORCEMENT



D.A. Ennis, *Act Administration Officer*

Despite the rather precise definition contained in the Engineering Profession Act of the term "practice of engineering", there is a wide range of opinion, even among professional engineers, as to what actually constitutes the practice of engineering. In my observation the most commonly encountered evidence of this confusion in the minds of engineers is the all too frequent statement "I'm not using my stamp, so I don't really have to be registered".

A careful consideration of the definition provided in the Act, and an examination of the responsibilities of those engineers who typically consider that they do not need to be registered, leads one to the conclusion that there are very few holders of an engineering degree who, while they may never have occasion to stamp their work, are nevertheless practicing engineering at one time or another in the course of their employment. It is also apparent to those of us who deal with many engineers, that they sometimes conclude, since they hold an engineering degree, are registered and have been engaged in a certain activity for years, that the activity in question must be the practice of engineering.

If this range of misunderstanding exists in the minds of engineers, it should not be surprising that the public is often unaware of the requirements of the Engineering Profession Act relating to the practice of engineering, not to mention of the significance of registration as a professional engineer.

Recognizing this situation, and in the belief that the majority of people in business and agencies are reasonable and honourable with no desire to subvert an Act of the Legislature or to otherwise conduct themselves imprudently, enforcement activities have been focused more on education and persuasion than on legal measures. Voluntary compliance is the preferred and most cost-effective option. This is not to say that the legal remedies available to the Association cannot be an element of the educational process or indeed implemented. With this in mind, I report that our enforcement-related activities have included the following:

— Investigation and follow-up of apparent cases of the practising of engineering by unregistered persons or by corporations ac-

ting without the services of an accountable professional engineer.

— Monitoring employment advertisements for engineering positions and, where appropriate, approaching employers to make them aware of the Association, the Act and the significance and advantages of licencing.

— Monitoring drawings of tendered construction projects to identify engineering by unlicensed out-of-province engineers or other persons practicing engineering in contravention of the Act, and conducting the appropriate follow-up.

— Communication and liaison with various organizations and government departments to familiarize them with the provisions of the Act and to seek compliance.

— Investigation and notification to the appropriate authorities on matters of public safety, which involve engineering, and which require prompt attention by the Association.

— Investigation and action relating to the unauthorized use of variations of the word "engineer" in business names.

— Investigation and follow-up on apparent cases of advertising of engineering services by unqualified persons or groups, including Yellow Pages Directory advertising.

— Investigation and follow-up of the use of engineering titles and business cards by non-engineers.

— Follow-up with engineers who are written off for non-payment of fees and who have failed to return their seal and certificates.

— Responding to inquiries from members on requirements of the Act and Code of Ethics.

As the officer responsible for enforcement I cannot possibly be aware of all the potential contraventions of the Act that develop around the province. For this Association to be effective in achieving compliance with the Act, either voluntary or enforced, it must first be able to identify circumstances that require attention. Those who are in the best position to recognize such circumstances and bring them to the attention of the Association are you the members. Some members have come forward in this way in the past and their assistance is appreciated. I encourage all members to be on the alert to matters that may involve a contravention of the Act and call me with concerns you may have. Since our prime responsibility as professional engineers is the protection of the public it is appropriate that the enforcement committee should be 3000 strong. □

BOARD OF EXAMINERS



F.R. Kaita, *Chairman*

Members:

W.L. Pawlikewich

J.R. Cahoon

E. Bridges

D.T. Anderson

A. Baracos

S. Balakrishnan

I.C. Goulter

R.W. Menzies

C.D. Anderson

A.D. Gerrard

J.M. Dobrovolny

M. Yunik

A.B. Sparling

W.B. Mackenzie, *Registrar*

O. Hawaleshka, *Liaison Councillor*

W.D. Christie

This Board reviews the academic qualifications of applicants who are not graduates in engineering from an accredited program to determine the eligibility of such applicants for registration in APEM.

During the past year the Board assessed twenty-five new applicants, re-assessed seven candidates, administered fifty examinations and updated the Board of Examiners Policy and Operations Manual.

Of the twenty-five new applicants seven were academically qualified, three deferred for lack of information, one failed to meet minimum requirements, and fourteen were assessed examinations. Seven cases were re-assessed for various reasons, and four were granted some changes.

Twenty-two candidates registered for thirty-five examinations, sixteen passes were recorded and three candidates qualified academically. Oral examinations were taken by 1984 to 1986 graduates with degrees in Computer and Industrial Engineering from the University of Manitoba. All fifteen graduates who were given the oral examination were found to be academically qualified.

The success of the Board has largely resulted from the efforts of its members under the Chairmanship of Walter Pawlikewich who served as chairman up to March 1988. On behalf of Walter and myself, I thank W.B. Mackenzie, V. Toth, and each member of the Board for all their work in the past year. □

COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS

UNIVERSITY LIAISON



Members:

M.C. Chaturvedi
P.L. Karras-Spangelo
W.R. McQuade
R.J. Waddell
J.G. Hildebrandt
S. Rizkalla
E.A. Speers
W.D. Christie
W.B. Mackenzie

V.D. Gupta, *Chairman*

It happens at least once every two months. Ten dedicated members of the University Liaison Committee get away from their comfortable settings of offices and homes and hold luncheon meetings. The Committee formed from diverse occupations and disciplines has a singular purpose — to provide liaison between the Council of the Association and the Faculty of Engineering of the University of Manitoba.

Providing liaison is particularly important considering the recurring theme of "change" and "need to deal with change" in the CCPE report of the workshop on the Future of Engineering, October 29, 1987. The report clearly states that the engineer in the 90's will not only require technical skills but also management, marketing and ethical skills. The Faculty of Engineering is facing the challenge of providing continuing and expanding demands for new programs and initiatives with limited and chronically constrained budgetary resources. The Faculty has done a remarkable job of providing excellent caliber of graduates who enter our profession and continues to be receptive towards aligning the education curriculums and content with the changing requirements.

In order to take full advantage of the diverse and considerable talent of the Committee members, three Subcommittees were struck as follows:

- 1) Alignment of University Programs with Industry Needs Subcommittee: Chairman, R.J. (Rob) Waddell — currently examining the need for continuing education of professional engineers and any need for adjustments of technical programs consistent with industry needs.
- 2) Role of Professional Engineer Subcommittee: Chairman, J.G. (James) Hildebrandt — currently examining the long term issues in industry management arising from the requirement for management, marketing and ethical skills from engineers.
- 3) Funding of Engineering Programs Subcommittee: Chairman, P.L. (Pat) Karras-Spangelo — currently examining the issues arising from declining engineering enrollment, expanding curricula and funding which does not keep pace with expansion.

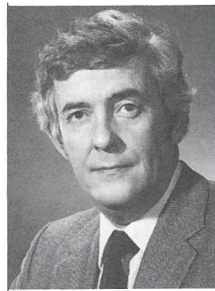
These topics, and others, were covered in a

very lively discussion following a dinner meeting of the Faculty and the Council of the Association organized by the committee and held at the University on April 19, 1988.

We look forward to the Subcommittee reports, findings and recommendations to the Council in coming months. Their hard work and dedication is an example to us all. May I also take this opportunity to acknowledge S. Rizkalla, M.C. Chaturvedi and W.R. McQuade for providing depth and experience to this Committee.

On behalf of this committee I thank Dean E. Kuffel for extending warmth, enthusiasm and excellent co-operation. □

TECHNOLOGISTS



Members:

W.D. Christie
E.W.J. Clarke
G.E. Laliberte
W.R. Newton
E.A. Speers

E.W.J. Clarke, *Chairman*

In early 1987, MANSCETT notified the Association of Professional Engineers of MANSCETT's intent to prepare, and proceed with, The Engineering Technology Act. As a result, APEM's Ad Hoc Committee on Technologists was formed.

The original mandate of the Committee, briefly, was to consider alternatives to MANSCETT's proposal; to hold related discussions with MANSCETT; and to make related recommendations to APEM Council.

The Ad Hoc Committee met with MANSCETT in August of 1987 to order to exchange information on the matter.

APEM's fundamental position is that such separate legislation is not appropriate, in that engineering activities ought not to be regulated under separate acts of the Legislature, and in that any separate legislation for technicians and technologists would conflict with the Association of Professional Engineers' essential authority to administer and regulate engineering practice in Manitoba.

The APEM Council has by resolution formally adopted the legislative model under which "right to title" for certified engineering technicians and technologists would occur only under The Engineering Profession Act. The Association of Professional Engineers is prepared to work with MANSCETT in redrafting existing legislation to accommodate such reserved title. Accordingly, the Ad Hoc Committee was authorized by Council to explore with MANSCETT its interest in being included

within The Engineering Profession Act, amended as required.

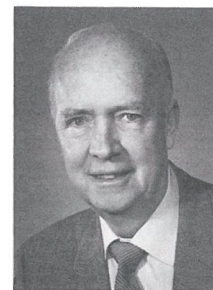
On January 28, 1988, MANSCETT provided to the Association of Professional Engineers a copy of their draft Engineering Technology Act. The Ad Hoc Committee immediately reviewed MANSCETT's draft legislation, and developed APEM's "position paper" outlining APEM's related concerns and suggestions.

The Ad Hoc Committee met again with MANSCETT in late February of 1988. President Christie then wrote to the President of MANSCETT conveying the APEM position paper.

It is understood that MANSCETT has now deferred the submission of The Engineering Technology Act, at least until 1989. MANSCETT has indicated that a written response to APEM's position paper will be forthcoming, and also that MANSCETT will continue to meet with representatives of APEM regarding these concerns.

APEM, in its 1988 brief to the Provincial Government, indicated that it considers it essential that APEM be afforded the opportunity to discuss this matter, and requested that the Government consider APEM's concerns before proceeding with any legislative action concerning technicians and technologists in the field of engineering. □

NOMINATING



Members:

F.R. Kaita
B.W. Prentice
M.L. Goble
K.A. Buhr
R.R. Foster
D.R. Grimes
B. MacBride
J.V. Weiszmann
E.W.J. Clarke

E.A. Speers, *Chairman*

The Nominating Committee met twice, early this year, first to review the number of councillors whose term was expiring and then to determine if they wished to run again for Council.

Our second meeting resolved the questions of the first meeting and led to a list of names of members to be approached to fill the vacancies. The list was prioritized and the members approached. As approval for the five members required was received, their names were reported to Mrs. McKinley at the Association office.

Mrs. Joan McKinley made the necessary arrangements to prepare the outlines of candidates' platforms and the ballot papers to be sent to the membership.

The services of Mrs. McKinley greatly facilitated the work of the committee and were appreciated by the committee members.

EVALUATING THE APEM JOB CLASSIFICATION SYSTEM

by E.G. Parker, P.Eng.
D.G. Chapman, P.Eng.

As part of its ongoing efforts to ensure that the annual salary information published by the APEM is useful to both employers and engineers in Manitoba, the Salary Research Committee undertook this year to review the foundation of the salary data, the APEM job classification guide. The committee surveyed major employers of engineers in Manitoba asking for their comments and concerns on the continuing relevancy of the existing guide. The APEM job classification guide was also compared to the seven other job classification guides used by the other engineering associations throughout Canada.

The current job classification system was prepared in the late 1970's with the assistance of the management consulting firm of Stevenson, Kellogg, Ernst, & Whinney. This year a survey was sent to 15 major employers of engineers in Manitoba to determine their familiarity with the APEM system, how their individual systems compared to the APEM system, and what changes in categories and emphasis they would suggest. In addition, responses were requested on the usefulness of salary data, the format of the salary presentations and their requirement for salary information from other provinces. Responses were received from 11 of the employers.

With respect to the type of classification system used by the employers, ten indicated

that they used a system and, of these, three indicated that their system was roughly the same as the APEM system. A number of the respondents indicated that they used a proprietary system developed by management consultants and observed that their systems were also used for other management positions and, as such, items that were specifically associated with engineering activities did not fit their system.

In their comments on the classification system, suggestions were made regarding changing the emphasis of various categories and deleting some of the categories, notably, use of the seal, education/degree, and leadership. There were also suggestions that new additional categories should be added to the list and these included: impact of error, problem solving, number of contacts, and physical-mental effort required.

With respect to the use of the salary data, seven respondents indicated that the salary data was useful and eight respondents requested that comparable salary data from other regions be provided.

There are a total of seven salary survey documents published by the various engineering Associations: one jointly by the Associations in Newfoundland, Nova Scotia, New Brunswick and Prince Edward Island, one by the Order of Engineers of Quebec and one by each of the Associations in Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. There is also a report

prepared by the Pay Research Bureau of Public Service Staff Relations Board in Ottawa.

Each of these documents presents the salary information in a different form. Most supply the data as a function of a job rating system, with each organization using a different method to determine the rating. Six of the surveys use a points rating system while APEO and the Pay Research Bureau use rating systems with broad classifications.

Figure 1 gives a comparison of the points rating systems of other organizations with the APEM system. Given the Manitoba points, the corresponding points for other organizations can be read from the vertical axis using the appropriate curve. The applicable salary can then be determined by referring to the corresponding salary survey.

Table 1 shows a comparison of the range of Manitoba points that are equivalent to the two broad classification systems published by APEO and the Pay Research Bureau.

TABLE 1

APEM Points	A.P.E.O. Classification	Pay Research Bureau Classification
0 - 245	A	1
250 - 315	B	2
320 - 410	C	3
415 - 550	D	4
555 - 720	E	5
725 - 840	F	
845 -	F +	

(continued on page 15)

Council Reports

JULY 11, 1988 by D. Spangelo, P.Eng.

Council considers adopting an examination in engineering law and professional liability.

Professional Practice Examination: Council moved that the Association adopt in principle CEQB's (Canadian Engineering Qualifications Board) recommendation that all candidates for registration write a closed-book exam on engineering law and professional liability. The Board of Examiners are to review this requirement and report back to Council.

Brief to Government: It was reported to Council that W.D. Christie presented the Brief to the new Premier and the Hon. Ed Connerly, Minister of Labour on July 11th, 1988. Some of the items discussed were funding of Research and Development and liability of engineers.

Safety Committee: The committee reported on a potential safety problem with four or more wooden arch public arenas in the province. All are similar in design and construction to a number of structures in Saskatchewan which have a history of major problems. Council agreed that the committee should contact the appropriate authorities to warn them of the potential hazard.

Awards Committee: E.W.J. Clarke outlined the Committee's nominations for the various APEM awards as listed below:

Honorary Life Memberships — R.E. Chant, T.E. Weber; Merit Award — A. Baracos; Outstanding Service Award — W. Saltzberg; Certificate of Engineering Achievement — R. Menon for spearheading the Red River Regional Water Supply System. CCPE award nominations were held in confidence.

CCPE Task Force Recommendations on "The Future of Engineering": E.W.J. Clarke, our CCPE Director, presented a detailed report to Council of CCPE's Annual Board of Directors meeting.

The major topic of discussion at the meeting was "The Future of Engineering". It was noted that CCPE's task force on this matter has been at work evaluating a survey of some ninety key executives from various regions and industries. Their report presented twenty-three recommendations for consideration by CCPE and its constituent Associations.

As per E.W.J. Clarke's recommendations, Council authorized W.B. Mackenzie and G.E. Laliberte to identify and distribute these recommendations to the appropriate APEM committees for comments. The Executive Committee is to receive these comments and report to Council, who in turn will report to the CCPE Task Force. It was noted that a new CCPE Task Force relating to engineering education has been established. This Task Force will address these recommendations which relate to engineering education.

Another recommendation of the report included Council authorizing a senior staff officer to participate, if required by CCPE, on a task force regarding provincial reciprocity in Act Enforcement. Council authorized D.A. Ennis, Act Administration Officer for this position if requested by CCPE. E.W.J. Clarke also presented to Council a draft letter to CCPE regarding this issue. The letter, which Council approved, addressed the concern for such a network and provided material to set up terms of reference for the committee which will be established by the CCPE Executive Committee.

Council considered a CCPE affinity credit card scheme, but decided that APEM would not participate.

CCPE Director: E.W.J. Clarke was appointed APEM Director for another year.

(continued from page 14)

The information shown in Figure 1 and Table 1 was derived by evaluating each of the jobs listed at the back of the APEM guide against the points rating systems of the other organizations and then doing a least squares fit on the resulting points. While not an exact comparison for all jobs, the committee believes that this approach provides a functional mechanism for the purposes of making salary comparisons between provinces.

The committee agreed that the current APEM classification rating system continued to meet the requirements of the Association as a basis for comparing salary information between employers. The great similarity between the APEM system and other engineering Association's systems in Canada and the general endorsement by employers in Manitoba supports its continued usage.

The committee also agreed that, as a number of the employers were changing their classification system and as there may be implications of potential pay equity legislation on components of the classification system, the classification system should be reviewed within the next three years.

Finally, the committee emphasized that the APEM classification system should continue to focus on the job function of the engineer and not attempt to provide a universal engineer/management classification system. □

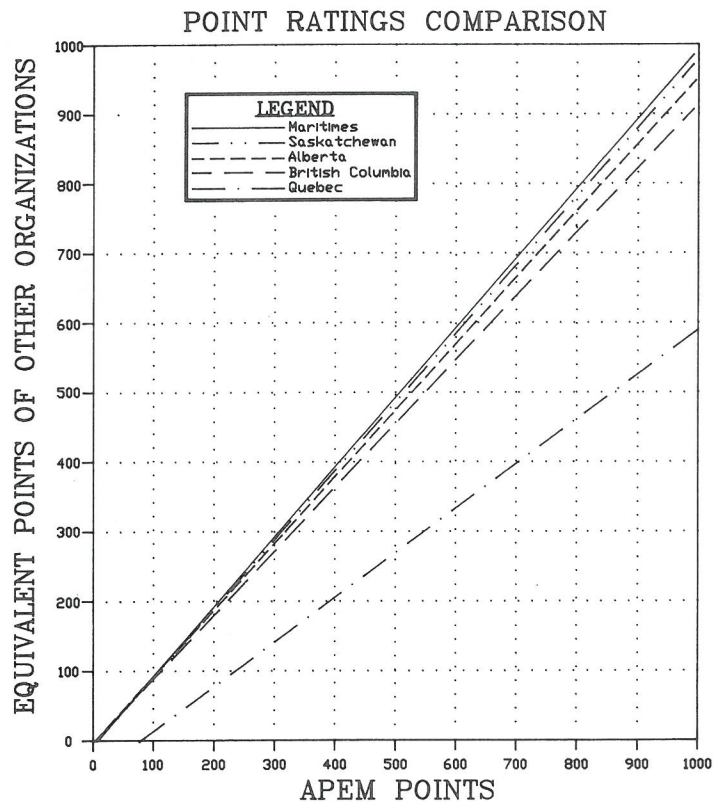


FIGURE 1:

Comparison between APEM points and points in other professional associations. As an example, if you are interested in finding out how many points you would have in Quebec if you have 400 points according to APEM classification. Locate 400 on the horizontal axis, draw a vertical line to the inclined line for Quebec and read on the vertical scale as 210.

Annual General Meeting: W.B. Mackenzie informed Council that the date for the Annual General Meeting has been changed to October 28th, 1988 due to a conflict with an Engineering Convention. As well, Guest Speaker Mr. John McDougall of CCPE would be replaced by Dr. Phil Lapp at the breakfast meeting preceding the Annual Meeting.

AUGUST 8, 1988 by J.W. Bogan, P.Eng.
Council determines 1989 fees and agrees on an additional assessment for the Practice and Ethics Committee fund.

The meeting began with the review and approval of the July financial statements, licences, engineering graduates, transfers, registrations, and one reinstatement. Council also commended Shannon Claggett, Gwendolyn Waedt, and John Woods for achieving 100% in the professional practice examination.

1989 Budget: The proposed 1989 Budget was then reviewed. The Executive Committee originally proposed a fee schedule for 1989 where all fees will increase, including annual dues by \$15. Annual dues have remained the same since 1984 and some Council members suggested that the 1989 proposed amount represents a small increase over this period. A portion of this increase would be directed to the Association's reserves. The reasons given for increasing the reserves included:

- a) concerns for potential litigation involving the Association; and
- b) comparisons to the reserves of other professional organizations.

It was argued that some Association members might consider such an increase unreasonable and choose not to renew their membership. Also, the Association presently has almost \$400,000 in investments and it was questioned if more are really needed. A review of the

Association's past financial statements indicates expenditures have doubled over the last five years. Most felt that the increases were justified and were a result of the increased work of the Association and included computerization, an Act Administration Officer and additional committees.

After much discussion, a motion increasing 1989 annual dues to \$125.00 (representing an 8.7% increase) and approving the proposed Fee Schedule was carried.

A motion was also passed that there would be a \$5.00 assessment fee for the By-Law 45 fund.

Practice & Ethics Committee — Investigation of Engineering Related Accidents: Based on a recommendation from the Practice and Ethics Committee, Council passed a motion to establish policies and guidelines to initiate action to investigate major engineering failures and major industrial accidents. The matter was referred to the Executive Committee for consideration.

Engineering and Free Trade Agreement: Council was given a presentation on Engineers and the Free Trade Agreement by D.I. Waldman, P.Eng. Mr. Waldman requested that Council, either directly or through the CCPE, enter negotiations to lead to reciprocity agreements with State Licensing Boards in the United States. Mr. Waldman expressed his view that although it was relatively easy for Americans to receive licences to practice in Canada, Canadian engineers had to undergo difficult examinations to qualify for practice in the U.S. As a result, Americans would be able to secure work in Canada, while Canadians would have difficulty obtaining work in the U.S. Overall, Canadian engineers would suffer a reduction in employment. Council thanked Mr. Waldman for his presentation but felt the requested action was not in line with the Association's mandate. □

News from other Associations

By D.A. Ennis, P.Eng.

In Ontario the Provincial Government has received a report recommending that engineers employed by the Provincial Government should be given collective bargaining rights under the Crown Employees Collective Bargaining Act. The Act was passed in 1972 and provided for bargaining units for engineers in Crown Corporations but not for those in the Provincial Governments.

The proposed implementation of compulsory liability insurance for engineers in Ontario has been deferred for the sixth time since 1984. Implementation is now contingent upon APEO providing a proposal that will compensate "the unsophisticated consumer of professional engineering services for professional negligence".

The recent APEO annual general meeting adopted a resolution that would have the Association consider ways to protect Whistleblowers from retaliation by their employers. It was noted that prevention of harm through some support mechanism would be much more in keeping with the role of the engineer than discipline after the fact.

The Registrar of APEO reported that in 1987, 75% of the disciplinary complaints received involved a building of some sort and were generally business disputes between engineers and/or architects.

APEO has formed a Women in Engineering Advisory Committee to act as council's advisor on subjects of specific concern to female engineers.

In Alberta, APEGGA's injunction to prevent Interprovincial Pipeline Limited from practicing engineering without a permit was recently reversed by the Alberta Court of Appeal. Amendments to the Act are being pursued by that Association as a result of this ruling.

The APEGGA Council has established a committee to examine APEGGA's future role and report to the 1989 annual general meeting. The committee will assess whether or not the association's performance is adequate in the area of its legislative functions and review the scope of its membership services. Council has also approved the development of an updated graphic identity logo. It is intended that the logo will supplement APEGGA's existing "Beaver" stamp.

The British Columbia Association has indicated it's intention to have the Engineer's Act amended to include the establishment of the right to practice Engineering Technology and other related skills under one act.

APEBC has presented a brief to the Cabinet Committee on Economic Development entitled "Seismic Risk in British Columbia" suggesting an emergency response program that would reduce the risk of damage, injury and loss of a life from an earthquake. It has also formed a special task force to monitor the inquiry into the shopping centre roof collapse. The task force has made a submission to the inquiry. The Association's Investigations Committee is also investigating the involvement by professional engineers separately.

The Saskatchewan Association has adopted a 3-hour closed-book professional practice exam as pre-requisite to registration. This is in keeping with a recent CCPE recommendation that all Associations adopt a uniform closed-book professional-practice examination. Manitoba is one of only three Associations that does not have closed-book examinations requiring essay-type answers.

CONTINUING EDUCATION IN QUEBEC

by V.L. Dutton, P.Eng.

Manitoba has its Association for Continuing Education and now, as of last May, Quebec has La SOFEDUC — la Societe de Formation et d'Education Continue — which translates as the Society for Self-Development and Continuing Education. Had this society waited two or three months before launching itself, the Ass'n would have been represented at its inauguration by its own Coordinator of Professional Development. This new position has been created, along with that of Director of Corporate Affairs, in recognition of the growing importance of these two activities for the members of the Association.

In the light of the lengthy discussion the members of our own Professional Development Committee had concerning the lack of evening post-graduate courses at the U. of M., it is interesting to note that two pages of courses are identified in PLAN (the Quebec Association publication). Approximately 57 of the 150 listed are held in the evening. □

QUEST FOR EXCELLENCE

The following address was presented by Dr. Gaetan J. Cote, Ing. F.E.I.C. who is the immediate past president of the Life Members Organization (EIC) at the annual meeting held at Winnipeg, May 27th, 1988.

"In reading the bulletin of Royal Bank of Canada, I read a wonderful quotation from Lao Tsu:

*"If there is right in the soul, there will be beauty in the person,
If there is beauty in the person, there will be harmony in the Home,
If there is harmony in the Home, there will be order in the Nation,
If there is order in the Nation, there will be peace in the World"*

That quotation inspires me.

We must recognize our individual's obligation to the community, without which there can be no real civilization and no real peace.

We all agree that our engineers do excellent work and do it behind the scene . . . We are even guilty, to a certain point, of excessive modesty and tend not to be aware of excellence in our own country. In less than 12

years, we will have reached the year 2000. What will our world be like at this new age!! Some imagine the worst while others propose an idyllic vision. But may I suggest that our world will be exactly what we want to make it. As members of Life Members Organization, we must be truly concerned about excellence, creative engineering so that technology and science are at the service of quality of life.

To achieve excellence, we owe it to ourselves to augment our role in Society, to take full part in the decision making process. Society depends on us to inform the public, technologically and socially. We are qualified to inform the public opinion and our voices must be heard. This must then be our mandate and our mission.

During our last great celebrations of the century of Engineering in Canada . . . it was said and written . . . "The future of Engineers remains intimately linked with that of our Society".

Consequently, there is only one kind of acceptable performance — that which measures up to the highest standards. The highest stan-

dard for each individual is that which his conscience tells him is best. The best in terms of the individual's conscience is the result of his environment, associations, knowledge, and training.

Churches, universities, schools, and other similar institutions are dedicated to the purpose of having an impact upon human lives that will continually raise individual standards. Most individuals then spend their lives striving to attain those standards. This is growth; this is life. The attainment of standards requires motivation, courage, practice, and self-discipline. Inactivity, protection from exposure, constant avoidance of challenge will never get anybody anywhere toward the attainment of acceptable standards or contribute to individual growth . . . We should give some thought to what our own standards are and how well we are living up to them. No one, therefore, is perfect. To some this is a challenge while to others it is an alibi. But I have faith that all of our technical institutions will give a good account of their stewardship, and I have faith that our engineering profession will show our country the best balanced and best integrated minds for the great benefit of our time to meet the new challenges." □