

Professional Engineer



October, 1987

ASSOCIATION OF PROFESSIONAL ENGINEERS OF MANITOBA
68TH ANNUAL GENERAL MEETING
 OCTOBER 19, 1987 — University of Manitoba

AGENDA

- | | |
|------------|--|
| 9:00 a.m. | Registration |
| 9:30 a.m. | Official Opening by President (Senate Chamber, Room 245, Engineering Building) |
| | Notice of Meeting |
| | Introduction of Head Table |
| | Introduction of Guests |
| | Minutes of Annual General Meeting of October 24, 1986 |
| | Declaration of Councillors Elected |
| | Auditors' Report |
| | Appointment of Auditors |
| | 1987/88 Budget |
| | Nominating Committee Appointments |
| | Reports (published in the M.P.E.) |
| | Greetings from C.C.P.E. and other Associations |
| | Coffee Break |
| | Presentation: Dr. Norman R. Ball |
| | Author of "Mind, Heart, and Vision" |
| | Professional Engineering in Canada 1887 to 1987 |
| | Harvey Werstiuk, Technical Manager |
| | Space Station Program, Space Division, |
| | National Research Council |
| 12:00 noon | Reception |
| 12:30 p.m. | Awards Luncheon (Multi-Purpose Room, University Centre) |
| | Presentation of Awards |
| 3:00 p.m. | Engineering Open House |
| | Tours conducted and coffee hosted by UMES Council |
| 4:00 p.m. | Unveiling of plaques naming Wings of Engineering |
| | Building (Senate Chamber, Room 245 Engineering Building) |
| 4:30 p.m. | Reception (University Centre) |

Manitoba HVDC Research Centre World Leader in High Voltage

by D.A. Woodford, P.Eng.

The Manitoba HVDC Research Centre was established in late 1981 as a non-profit establishment charged to conduct research in high voltage direct current transmission and related fields. The Centre is co-operatively sponsored by Manitoba Hydro, the University of Manitoba, Teshmont Consultants Inc., Federal Pioneer Ltd. and the Province of Manitoba.

The Centre's mission is to conduct research and development work in connection with the transmission and distribution of electrical energy and in particular with the high voltage direct current (HVDC) transmission of and distribution of electrical energy. The mission includes making available and disseminating to the public the results of such research and the establishment of research facilities.

Through the effort of the past five years, the Centre's research activity is now bearing fruit. In part the success of the Centre can be credited to the working arrangement with its sponsors through the Sponsors Agreement. This provides for expert manpower from any of the sponsors to work together on a research project.

As an example of this arrangement, the Centre is examining why HVDC wall bushings occasionally have an electrical breakdown and flashover, shutting down a portion of the direct current transmission system from time to time. Wall bushings enable the high voltage direct current energy to pass through the wall of a converter station housing the power electronic conversion equipment to the outside and the transmission system. Flashovers involving wall bushings have been experienced at a number of direct current converter stations including Nelson River. The aim of the project is to monitor leakage currents and environmental conditions that lead up to the eventual flashover. The project is being led by Allan Forrest of Teshmont and the team consists of experts from Manitoba Hydro, Federal Pioneer and Teshmont. The project com-

(continued on page 2)

Slowpoke Reactor Safe for Home Use, Says A.E.C.L. Engineers

Although the concept of installing mini-nuclear reactors in the basement of highrise apartments may be alarming to most people, Atomic Energy of Canada Ltd. (AECL) plans to test the energy system within the year.

According to a team of about 25 engineers and scientists at the crown corporation, the reactors are about the size of an industrial furnace, cost about \$10 million each and are safe to use.

Known as the Slowpoke Energy System, the mini-reactors are modelled after the Slowpoke research reactors that have been operating in seven Canadian cities since the early 1970s. The new Slowpokes, which run on enriched uranium fuel, are at least 100 times more powerful than their 20 kW predecessors and can operate unattended for up to 72 hours. They are designed to supply heat and electricity for structures in both remote and urban areas.

Plans are underway to start up a demonstrator reactor this summer in Manitoba. Housed in a 14-square-metre

building at the Whiteshell Nuclear Research Establishment, about 100 kilometres east of Winnipeg, the demonstrator will provide AECL scientists and engineers with practical experience in monitoring and controlling radioactive emissions from the reactor.

According to John Hilborn, Research and Development Manager, AECL is confident in the mini-reactors because of their safety and simplicity.

The reactor's core is encased in a concrete vault and sits on the bottom of a steel-lined pool of water, 4 metres in diameter and 10 metres deep, which cools it. According to Mr. Hilborn, a meltdown of the reactor's core could occur only if an earthquake or a bombing ripped open the reactor pool. That would cause 159,113 litres of water to drain out in a matter of minutes.

AECL officials admit that the explosion of the Soviet nuclear reactor in Chernobyl in April 1986 demonstrated the dangers of nuclear reactors but they are optimistic that they can convince critics that nuclear reactors are safe when used properly. □

THE MANITOBA

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Opinions expressed are not necessarily those held by the A.P.E.M. or the Council of the A.P.E.M.

Manitoba Research Centre World Leader *(continued from page 1)*

menced in the fall of 1986 and will continue for a further two or three years.

The environmental impact of direct current transmission lines has been publically questioned from time to time. This manifest uncertainty is due to the incomplete standards associated with HVDC. In 1982, the National Research Council of Canada awarded a contract to the Centre for the long term measurement and analysis of corona related phenomena on the Nelson River HVDC lines. The purpose is to establish a comprehensive data base of corona effects from which to provide input toward design guidelines, equitable standards and regulations for environmental acceptability. This led to the establishment of the Lundar Outdoor Laboratory. Corona and weather data are transmitted on line from the Lundar test site beneath the \pm HVDC lines to a computer in Winnipeg. Since 1982, other contracts for research at Lundar have been started. Oliver Norris-Elye, P.Eng. as project leader, is spearheading this important activity.

Another project recently undertaken by the Centre which may change the way electric power is brought long distance from remote hydro electric stations is the integration of an HVDC converter within the generating station. Mr. Lindsay Ingram, P.Eng. as project co-ordinator has led a study of incorporating HVDC thyristor valves directly in the power house. This investigation could only have been carried out with the combined efforts and expertise of staff from the Sponsor organizations.

One area of specialty for the Centre is in the simulation and analysis of transient performance of direct current transmission systems. It is marketing internationally, software for direct current transmission simulation which was developed by its sponsors. Training courses are being offered at home and abroad, with particular interest being engendered from the Ministry of Power and Water Resources in China. Four engineers from China are spending six months at the

Centre as the result of a contract through Manitoba Hydro's Export Service Department.

Winnipeg has developed a reputation over the years of being a centre of excellence in HVDC technology and the Centre and its projects such as the wall bushing examination and the activities at Lundar are receiving international attention.

Direct current transmission is still a developing technology of hi-tech nature as anyone who has visited Manitoba Hydro's Dorsey converter station can testify.

Not all funding has been provided by the Sponsors. One third of funds has been obtained as contract revenue from sources such as the National Research Council (NRC), the Electric Power Research Institute (EPRI) of Palo Alto, California and the Canadian Electrical Association (CEA). Recently the Centre signed a contract with EPRI worth approximately \$400,000. for maintenance and further development of software developed in part by the Centre. Dr. Doug Chapman, P.Eng. of Manitoba Hydro and representing the Centre has led a team which has been largely responsible for development of state of the art software for modelling multi-terminal direct current transmission in computer load flow and stability programs for EPRI, the total value of which is nearing one million dollars.

Technical direction is provided to the Centre by its Technical Advisory Committee. Its members at present include Dick Hayward, P. Eng. of Manitoba Hydro, Ron Harrison, P. Eng. of Teshmont, Dr. Bendapudi Ram, P. Eng. of Federal Pioneer Ltd., Dr. Rob Menzies, P. Eng. of the University of Manitoba and Dr. Malcolm Collins, P.Eng. of NRC.

The overall responsibility of the operation of the Centre lies with its Board of Directors. Serving in this capacity are Jack Atchison, P.Eng. of Manitoba Hydro as Chairman, with Board Members Jack Scriven, P.Eng. of Teshmont, Ellis Hughes of Federal Pioneer Ltd., Terry Falconer of the University of Manitoba, Morris Chochinov, P.Eng. of the Provincial Government Department of Energy and Mines and Dr. Jim Wong from NRC.

In general, the widening interest of direct current throughout the world will provide opportunity for the Centre to assume a leading role in research and development activities. Its success will result through the tremendous experience of, international respect towards, and goodwill from the direct current professional engineering community of Manitoba.

New Members Registered In August/September '87

A.M. Aftanas	R.C. Loewen
C.A. Baron	A.M. Maida
N.R. Bulley	J.D. Marlow
P.K. Cameron	R.R. Maunsell
A.G. Carlos	R.D. McLeod
R.W. Carson	R.A. Nakka
D.D. Clark	G.H. Neufeld
R.J. Cooke	D.J. Palmer
M.O. Cutler	M.A. Petursson
D.W. Dobson	M.D. Prydun
D.B. Duncan	W.G. Roberts
R.A. Dutchak	A.G. Sidebottom
N.E. Garrioch	S.Y.W. Siu
R.K. Glowacki	C.S. Sparham
M.A. Harris	J.K. Stibbard
R.V. Houghton	A.U.R. Truderung
B.D. Inch	R.A. Valiquette
W.C. Kennedy	

Licences Issued In August/September '87

G.C. Baker (N.S.)	P.K. Sood (Alta.)
G.C. Bellany (Ont.)	T.W. Smith (Alta.)
R.G. Cawker (B.C.)	D. Weinreb (Ont.)
P.H. Elfner (Alta.)	C.N. Williams (Minn.)
D.K. Hall (Ont.)	
J.E.A. Hofman (Alta.)	
L. Ivic (Ont.)	
R.S. Kunimoto (B.C.)	
G. Lantos (Ont.)	
B.J. Lukes (B.C.)	
F. Mancini (Ont.)	
C.E. Mickelson (Ont.)	
J. Millar (Sask.)	
R.E. Morin (Ont.)	
S. Pavlovic (Ont.)	
V.S. Platek (Que.)	
L.M. Sargent (Iowa)	
S. Skaberna (Que.)	

Engineering Graduate Members Registered in August/September '87

R.F. Brown
D.B. Edwards
G.C. Edwards
B.E. Freeman
M.J. Marshall

What HAS The Association Done This Year??



As my term as President draws to a close, I am pleased to report to the membership on the highlights of the year and on the state of the Association.

This year of the Centennial of Engineering has produced many opportunities to emphasize the impact of the field of engineering on the lives of Canadians. From the Centennial's opening remarks by Prime Minister Brian Mulroney, through the Centennial Convention in Montreal with the honouring of ten great engineering achievements, to our own "Northern Transition—Engineering and the Development of Northern Manitoba" at the Museum of Man and Nature, and our colourful street signs, with many other events forthcoming across the country, we have let Canadians know the value of engineering in our society.

You'll hear more at our Annual Meeting October 19. The theme of the speakers this year could well be "Where we've been—where we're going" as we learn from Norman R. Ball from the Canadian Museum of Science and Technology of Canadian engineering history (with special emphasis on Manitoba), and from Harvey Werstiuk of the National Research Council of Canada's space programme.

Government

Early in the year the Honourable Vic Schroeder, Minister of Industry, Trade and Technology, called a committee together on the subject of Free Trade with the United States and its effect on our economy. I attended and contributed along with other consulting engineers.

On October 1 we will be meeting with the Minister of Labour, the Honourable Al Mackling, to present our first Association brief to Government, covering our concerns and some suggestions for action.

Canadian Council of Professional Engineers

Recently a suggestion was received by the national body from the New Brunswick Association that discussions be held on dropping the "P" in the acronym "P.Eng." as effected several years ago in Quebec ("ing.>"). In my opinion, such discussions are unnecessary and it would be a mistake to change. We have pride in our profession, with a Code of Ethics second to none. We should use the P.Eng. designation after our name and when referring to other registered

President's Message

Ted Speers, P.Eng.



engineers. We should insist that it be used by others in written communications. I hope that you will attach to this as much importance as I do and that you will join with me in urging all registered engineers to demonstrate pride in their designation as "Professional Engineers" or "Ingenieur".

Over a number of years your Association has endeavoured to discipline a licensed engineer involved with the Winnipeg Arena. In general, it has been understood by the national body that a licensee from another province should be disciplined by that province, mainly because the temporary licence probably would have expired and with it the jurisdiction on practice. The problem lies with the Association in the province of registry encountering difficulty in gathering evidence because their legal mandate does not extend to another province. We have taken this matter up with CCPE and they have now requested that APEM present a background document on the subject for consideration by the national Council. Our brief will be presented this November.

Council

There have, in the past, been years when some Council members' aspirations have appeared to be in conflict. This has not been one of those years. Council has been very positive and innovative with projects to enhance the image of engineering. One coming up is the placement of a commemorative plaque to the engineering achievements at the Old Pinawa Dam Site. Another is the unveiling by the Lieutenant Governor of Manitoba of a descriptive panel extolling the engineering involved in the Drainage and Water Control System in Manitoba. This will take place at our Annual Meeting and the panel will subsequently be housed in the Department of Engineering at the University of Manitoba. Of interest to aspiring engineers, graduates and lay people is a series of engineering programmes on Channel 13 arranged by some Council members.

Council has been responsible and cooperative and has tolerated my occasional lapses with good humour. I have very much enjoyed working with the members in furthering the affairs of our Association.

Manitoba Society of Certified Technicians and Technologists

We have met on three occasions during the



year with members of MANSCEET. Our meetings have resulted in good discussions and an exchange of viewpoints on the mandate of our association to protect the public, and on MANSCEET's intent with regard to Right to Title. Further discussions are planned.

Membership

Over the last several years our membership has grown steadily until, this year, 3040 members have been registered—an increase of 2% over 1986. This increase can be compared with steady growth over the last 7 years totalling 15%.

Finances

Again this year we have added to reserves, bringing the total up to a figure considered sufficient to operate for a year even under abnormal and adverse conditions.

The 1988 budget, as presented, projects a slight deficit; however, we expect the investment income to exceed the conservative projection, resulting in a balanced financial statement. No increase in fees is projected for 1988. A careful review of the investment of the Association funds has been completed and the resultant investment plan is in effect.

Act Enforcement

During the year members of the Practice and Ethics Committee carried out their duties, as reported elsewhere, without any matters requiring referral to Council for a hearing. Dave Ennis, P.Eng. was added to the APEM administration as Act Administration Officer. He is performing his duties in an exemplary manner.

Administration

Under the very able direction of Bill Mackenzie, P.Eng., Registrar and General Manager, the Association's affairs have run smoothly. I am pleased to report that a computer, laser printer and software have been added to facilitate the work of the Association. The staffing situation is stable, with excellent, experienced help at all stations. One cannot help but have a good year as President with such a cooperative staff. Mrs. Joan McKinley, Mrs. Elaine Ryan, Mrs. Vera Toth and Miss Donna Bilodeau give our Association office professional tone and individual service to keep things running smoothly. They are very much appreciated. □

COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS COMMITTEE REPORTS

CODE OF ETHICS



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

C.R. Bouskill, *Chairman*

The Code of Ethics Ad Hoc Committee was established by Council, 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 is endeavouring to ensure that:

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

The Committee is reviewing the current Code on a clause by clause basis, and is also examining the Codes in use by each of the other Canadian Professional Engineer Associations/Orders, 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, commencing on March 9, 1987, 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 none have been received.

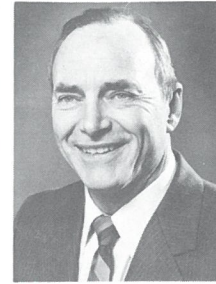
A few members of the Committee are currently collaborating to prepare a draft revised Code of Ethics for subsequent review by the Committee as a whole. Current indications are that a revised Code of Ethics may be proposed which will encompass two basic elements, specifically:

- a) a statement of general principles, and
- b) a series of 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.

An invitation is extended to each member of the Association to review the current Code of Ethics, a copy of which is available from the Association office if you have misplaced the copy sent to you in February 1987, to contemplate the significance of each clause of the Code, and to submit constructive suggestions or comments, either through the Association office or directly to one of the committee members. APEM President E.A. Speers also attended many of the Committee's meetings as an ex-officio member.

I wish to extend my personal thanks to each member of the Committee. We all join in expressing our sincere thanks to Joan McKinley for her cheerful and capable support as secretary of this Committee. □

REGISTRAR'S REPORT



W.B. Mackenzie

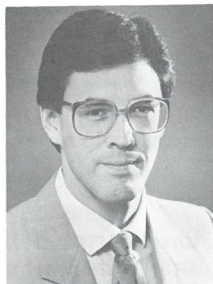
MEMBERSHIP

The membership in our Association continues to increase, albeit slowly. The number of engineers registered and working in the province bears a direct relationship to the provincial and, to a lesser degree, the national economy as well as to the changing nature of the engineer's role in the engineering workplace. Most applications for membership come from young graduate engineers who have acquired the necessary two years of engineering work experience subsequent to graduation. Other applications come from Professional Engineers who are transferring from other Provincial Associations. Some applicants are engineers from overseas who now live in Manitoba. These latter applicants must have their academic credentials assessed by our Board of Examiners before their applications are processed.

During the past year a number of applications for membership, applications for licence and for engineering graduate membership were screened and approved by Council. Council also approved a number of transfer applications and applications for reinstatement. The following may be of interest:

Current Membership Statistics: July 31/87	
Full Members	2575
Non-Practicing & Non-Resident Members	443
Life Members	22
TOTAL	3040
Membership as July 31, 1986	2983
Plus: Registrations	132
Transfers In	37
Reinstatements	16
	+ 185
Less: Resignations (Dec. 31)	31
Resignations (June 30)	18
Transfers Out	7
Written Off (June 30)	58
Deceased	1
	- 129
Total Membership as of July 31, 1987	3040

PUBLICATION COMMITTEE



- Members:**
 W.G. McKay
 A. Kusiak
 D.N. Spangelo
 D.E. Cross
 J.W. Bogan
 V.L. Dutton
 G.A. Morris
 L Ganetsky
 W.B. Mackenzie
 P. Gordon
 E.A. Speers

K.J. Hearson, *Chairman*

Well, certainly this past year has seen a greatly reduced number of changes from the previous year. In fact, some may feel that the publication has already settled down into too familiar a routine. Knowing what thought-provoking and imaginative work the committee members strive to produce, I can't see a

"cosy" pattern surviving for long. Improvements will be made.

The committee has worked very hard to produce the past six issues and must be commended, applauded, thanked, and cheered for their valued efforts. Ditto for our Production Manager, Vera Toth. Lots of sandwiches, cookies that border on chocolate bars, meetings that get intensely humorous at times and a sense of producing a publication that shines under scrutiny all help to keep the work less than burdensome. □

COMMITTEE REPORTS

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FINANCES

The effectiveness of our Association is fulfilling its mandates depends in some significant degree to its financial health. It is important that the various vital functions and procedures of the Association are not curtailed or hampered by a lack of funds. Furthermore, a healthy surplus reserve fund creates extra income, (thus keeping annual dues down) and provides the Association with some security in the event that an unforeseen financial crisis arises. As treasurer of the Association, I can report that the financial health of our Association is excellent. Our preliminary year-end financial statements indicate that a contribution to the Association reserves in the amount of approximately \$70,000.00 was made in the 1986/87 fiscal year. This is one of the reasons that membership fees have not been increased for the 1988 membership year.

POLICY MATTERS

As Secretary of the Association, I can report that Council, during the last year, has put into a place a number of AD Hoc Committees to deal with urgent matters which fall outside the terms of reference for our standing committees. Among these Ad Hoc committees is one to review the Professional Engineers Code of Ethics, one to consider the implications of instituting group practice licencing and one to address the effect on the Association by the announced intention of MANSCETT to seek their own Provincial Statute giving technologists and technicians the "right-to-title". The work of these Ad

Hoc Committees along with the work performed by the Standing Committees, whose reports are given elsewhere in this publication, are good indicators that the affairs of the Association are being handled well by our elected Council.

During the Year, two Association booklets were produced; an updated issue of the "Guide For The Engagement of Consulting Professional Engineering Services" and "Guidelines on The Ethical Use of the Engineering Seal". Both of these Association publications are available at the office.

BUSINESS MATTERS

A decision was made by Council to increase our present office space. Vacant space immediately adjacent to the current quarters will be leased and open for occupation near the end of 1987. A new computer has been ordered and the Association roster, mailing list and register will be entered into the computer. Subsequently, fee processing, book-keeping and payroll functions will be computerized. It is anticipated that the use of this computer by the staff will result in more efficient internal procedures and subsequent cost reductions.

During the past year the Association added a new staff member - Mr. David Ennis - whose title of Act Administration Officer describes his major function, namely Act enforcement as it applies to non-members of the Association. Mr. Ennis also works closely with the Practice and Ethics Committee, assisting them in obtaining vital information for their investigations of complaints.

During the past year I have had excellent

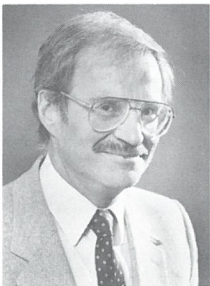
support from the staff and I am grateful and appreciative of the dedication and loyalty of all of them. Joan McKinley, Elaine Ryan, Vera Toth, Donna Bilodeau and latterly Dave Ennis have all performed efficiently and effectively in the interests of the Association and the membership is fortunate to have people of such high calibre working on their behalf.

I can also repeat what I have said in previous reports relating to my appreciation of the opportunities I have had to work with the many volunteer members of Council and our numerous Committees. The Association owes a significant debt to these people who voluntarily give their time and expertise to assist the Association in the implementation of its mandates.

CANADIAN COUNCIL OF PROFESSIONAL ENGINEERS

Through participation in various committees of the Canadian Council of Professional Engineers the APEM has contributed significantly to those matters relating to the profession of engineering at the national and international levels. During the year CCPE has addressed and is addressing such important matters as mobility of engineers from province to province, uniform provincial standards for entry into the profession, reciprocal agreements on complaints relating to members of different provincial Associations and on the future of the Engineering Profession in view of the technological changes in the field of engineering and the role of the Engineer in this field. □

BOARD OF EXAMINERS



W.L. Pawlikewich, *Chairman*

Members:

The Professional Engineers who served on the Board during 1986/87 were:

C.D. Anderson	D.T. Anderson
S. Balakrishnan	A. Baracos
E. Bridges	J.R. Cahoon
J.M. Dobrovolny	A.D. Gerrard
I.C. Goulter	F.R. Kaita
R. Menzies	W.L. Pawlikewich
F. Penkava	A.B. Sparling
M. Yunik	

Professor O. Hawaleshka acted as liaison with Council

There was a small increase over 1986 in the number of applicants for assessment, thirty-three this year as opposed to twenty-seven. This is still significantly less than the numbers for 1985, 1984 and 1983: forty, forty-five, and sixty-three respectively. Twelve candidates were deemed academically qualified, nine were given confirmatory exams, while

seven had an examination program assigned. Four persons were given qualifying exams. One applicant who had no post-secondary diploma was refused assessment.

Four cases were reviewed after examinations and two applicants were found academically qualified while two were assigned examination programs.

Eleven cases were reconsidered for various reasons. Of these, two candidates were qualified, one had his program reduced, while eight had their programs altered in detail though not extent.

Three applicants appealed their assessments. Two were determined to be qualified while the other had the number of confirmatory exams reduced.

Twenty-two candidates registered for thirty-five examinations. Seventeen passes were recorded.

In addition, sub-committees of the Board administered oral confirmatory examinations to eleven candidates who had graduated from the University of Manitoba in Computer Engineering and Industrial Engineering. These programs were not accredited for the graduates of 1984, 1985, and 1986 although they were both accredited this year. All the candidates passed the exams and on that basis were found to be academically qualified.

I thank W.B. Mackenzie, J. McKinley, V. Toth, and each member of the Board for all their work in the past year. □

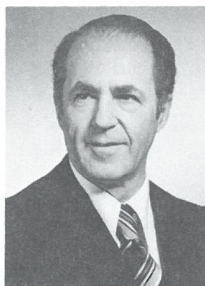
COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

COMMITTEE REPORTS

PRACTICE & ETHICS

**Members:**

D.R. Grimes
K. Hallson
C.R. Bouskill
W.R. McQuade
R.H. Russell
E.F. MacKenzie
F.A. Jost
W.M.A. McDonald

F.M. Fowler, P. Eng., *Chairman*

The Committee has met on seven occasions between the Annual Meeting of 1986, and August 1987 as well as holding numerous sub-committee meetings.

MATTERS DEALT WITH AND CONCLUDED

1. A legal counsel to advise the committee on legal matters was selected, namely Mr. A. Anhang, who has acted on several occasions for the APEM and is familiar with the Act, By-Laws and Code of Ethics.
2. A complaint of unethical practice was lodged against one of our members. The matter was investigated by a sub-committee and found to be lacking in substance. Both the complainant and our member were advised that there was no breach of the Code of Ethics.
3. A property owner advised that he had received what appeared to be conflicting geotechnical advice concerning his river bank property. A sub-committee was struck to investigate and concluded that there was no breach of the Code.
4. The committee recommended to Council that an article in the APEO Gazette be republished in the *Manitoba Professional Engineer* so that members might benefit.
5. As a result of a letter from one of our members pointing out some of the difficulties he was experiencing with the Code of Ethics, this committee recommended to Council that an in-depth review of the Code of Ethics be undertaken.
6. In another case, and on the basis of information provided to the committee, a Professional Engineer appeared to be practising his profession in an unethical fashion. This matter was investigated and an answer satisfactory to the committee was received and no further action was taken.
7. It came to the attention of the committee that some Professional Engineers were issuing unsealed drawings in the carrying on of their practice. The matter was investigated and action was taken to ensure that they would comply with this requirement of the Act and the Code.

ONGOING PROBLEMS TO BE RESOLVED

1. In one complaint that has been under investigation since the last Annual Meeting, very little real progress has been made until recently because of faulty information provided by the complainant.
2. In another case the involvement of a Professional Engineer on a project where problems developed and where there is some question as to whether or not that Engineer sealed drawings without having done the design, continues to be dealt with.
3. The committee has two recent inquiries on ethical matters that are presently before sub-committees. Reports for considera-

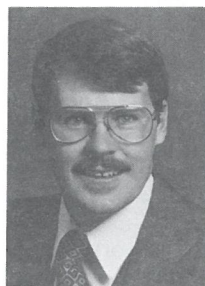
tion by the full committee are expected shortly.

Members of the committee are actively engaged on the Ad Hoc Committees to review the Code of Ethics and on the Implementation of Group Practice.

In the opinion of the committee, the establishment of Group Practice would enable it to deal more quickly with matters that involve multi-disciplinary projects and those where an Engineer complained about no longer works for the same employer.

As chairman I once again thank the members of the committee for the diligent work. They continue to make the position of chairman a pleasant and rewarding experience. □

SAFETY IN ENGINEERING PRACTICE

**Members:**

B.W. Gulay
A.O. Dyregrov
L.P. Williams
R.E. Gottfred
J.V. Weiszmann
W.J. Hodgins
J. Martin
W.B. Mackenzie
E.A. Speers

F.A. Roberts, *Chairman*

The Safety and Engineering Practice Committee has completed its second year as a committee of council. We have a very willing and active membership whose names appear above.

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

Four sub-committees have been active this year studying a) design practice in parking garages where post-tensioned slabs with unbonded tendons are used, b) interaction of engineers and architects in the construction of building structures using precast slabs, c) periodic inspection of older building structures, and d) new guidelines which are to accompany Provincial regulations of the Workplace Safety Division on falsework and formwork.

In addition the whole committee has reviewed the implications on safety in engineering practice of the new City of Win-

nipeg Building By-Law and Canon's 3.3 and 4.6 of the Code of Ethics.

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, Bill Newton our Liaison Councillor and Donna Bilodeau, Recording Secretary for their generous assistance during the year. □

OLD PINAWA

**Members:**

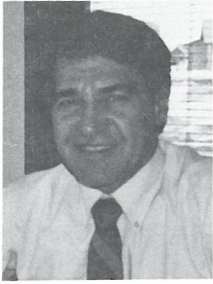
W.G. McKay
W.R. Newton
K. Hallson
K.J. Fallis
W.B. Mackenzie
E.A. Speers

L.A. Bateman, *Chairman*

The committee has been actively working with the Provincial Government Parks Branch to get a commemorative plaque mounted on the Old Pinawa Dam Site as a recognition of the early pioneering engineering achievements of the members of the engineering profession. The plaque is intended to recognize the skills and vision of the pioneering engineering work involved in the development of the hydro electric power potential of the complete Winnipeg River in Manitoba for the benefit of its citizens. The committee hopes to finalize its work before the end of 1987. □

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LEGISLATION



- Members:**
 E.A. Speers
 R.B. Blackman
 D.W. Gunter
 J.S. Hicks
 D.J. McIntosh
 B.D. MacBride
 W.B. Mackenzie

E.E. Lach, *Chairman*

The function of this Committee is to make a continuing study of the Engineering Profession Act and the By-Laws of the Association, make recommendations to Council on changes to the Act or By-Laws considered advisable by the committee, and to study and make recommendations to Council regarding federal and provincial legislation that may affect the Engineering Profession.

Since the annual meeting held in October 1986, the Committee met on three occasions and also set up one sub-committee.

The Committee reviewed the proposed new Winnipeg Building By-Law and reported to Council on the professional engineering and public safety aspects of this document.

The Committee continues to be in contact with the Association of Manitoba Land Surveyors as this Association moves towards having the Manitoba Legislature amend the Land Surveyors Act by including a definition

of "practise of land surveying" in Section 2. An appointed sub-committee under chairman, D.J. McIntosh, has expressed the initial concerns of our Association regarding the amendment to the President of the A.M.L.S. and are continuing their review of the proposed amendment as well as monitoring its progress at the Manitoba Legislature. The Committee has recommended to Council that any amendment to the Land Surveyors Act should include an "exempting clause". The concern is that, without an "exempting clause", future interpretation of the "definitions" by a judicial body may result in making it illegal for engineers to carry out certain types of location or laying out surveys.

The Committee considered the matter of Annual Fee Payment Deadlines as defined by By-Law 38 and passed a motion stating their concurrence with the position of Council on payment of annual fees.

The Committee anticipates greater activity next year as it considers efforts by MANSCETT in obtaining their own provincial statute as well as possible revisions to the Act and By-Laws concerning licensing Group Practice and the inclusion of Geologists.

I would like to thank the Committee members for their active involvement and also express the Committee's appreciation to the office staff for their assistance with special mention of W.B. Mackenzie for his keen interest and counsel and of Vera Toth who managed an interested expression through it all and always provided a set of organized minutes. □

SOCIAL AND ANNUAL GENERAL MEETING



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

R.R. McKibbin, *Chairman*

Your Social Committee very actively put together an exciting Cabaret Night for March 6, 1987, at the Vasa Lund, but regrettably had to cancel the event because of poor ticket sales. Respondents to a survey of the membership did indicate considerable support for an event of this nature. More aggressive ticket sales and publicity will be required for any future social functions.

The Annual General Meeting is to be held this year on October 19, 1987, at the University of Manitoba to commemorate the 80th Anniversary of the Faculty of Engineering. The meeting will be preceded on the Sunday evening by a Wine and Cheese Reception which is held to recognize the volunteer input of all committee members of Council.

Come out to this year's meeting and share in one, or all of the exciting program — business meeting, Award's luncheon, and Faculty celebration.

Our thanks to W.B. Mackenzie, P. Eng., Joan McKinley and staff for their very capable assistance. □

UNIVERSITY LIAISON



- Members:**
 M.C. Chaturvedi
 P.L. Karras-Spangelo
 W.R. McQuade
 A.M. Lansdowne
 J.G. Hildebrandt
 W.B. Mackenzie
 E.A. Speers

V. Gupta, *Chairman*

The University Liaison Committee began its work in earnest this year. The Committee's formal contact at the University, for liaison between the Committee and the Council, is Dr. M.C. Chaturvedi. Under the able guidance of W.B. Mackenzie, E.A. Speers and Ken Buhr, the Committee has identified a number of major issues and concerns of the Faculty and initiated appropriate action at resolving those.

The Committee identified three major issues and struck sub-committees assigned

with the task of doing necessary investigation and reporting back their findings to the main committee. The following sub-committees were set up:

1. The Role of Professional Engineers
 James G. Hildebrandt, Chairman
 W.B. Mackenzie
 N.G. Britton
 M. Townsley
2. The Funding of Engineering Programs
 Pat L. Karras-Spangelo, Chairman
 W.R. McQuade
 G.A. Morris
3. The Aligning of University Programs With Industry Needs
 S.H. Rizkalla
 Others - to be named

We look forward to the recommendations of the sub-committees. Meanwhile, may I take this opportunity to express my appreciation for the support and dedication of the committee members. □

ADMISSIONS REVIEW BOARD



- Members:**
 G.E. LaLiberte
 C.R. Bouskill
 W.M.A. McDonald
 J.E. Barnes
 W.L. Pawlikewich
 E.A. Speers

W.D. Christie, *Chairman*

The major function of the Admissions Review Board is to consider applications for registration referred to the Board by Council or by the Registrar where there is a question as to the adequacy of the applicant's work experience. The Board may also provide

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Council with advice, when requested, relating to the Association Admission Standards where the standards relate to engineering work experience. The Board may interview applicants, their supervisors or persons providing work experience references in order to ensure that all information relating to the applicant's work experience is available for consideration.

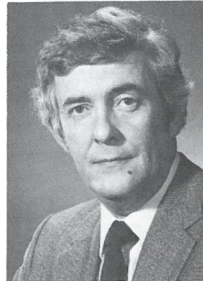
During the past year the Admissions Review Board members considered twenty applications and interviewed or caused to be interviewed four applicants and applicant's supervisors. In fifteen cases the applicants work experience was deemed to be adequate and in five cases the applicants were required to obtain further experience before their applications would be considered again.

During the year the Admissions Review Board considered certain legal aspects of the Association's Admission Standards and in particular those relating to the "Log of Experience Route" to registration i.e. the work experience of graduates who were not working under the supervision of a Professional

Engineer. This matter is still under consideration.

I would like to thank the members of the committee and other members of the Association who agreed to serve on inter-

viewing sub-committees for their assistance during the year. My thanks also go to Joan McKinley and Bill Mackenzie, staff members, for their capable assistance during the past year. □



Edward W.J. Clarke, *Chairman*

The Manitoba Society of Certified Engineering Technicians and Technologists has announced an intention to pursue "Right to Title" for its membership, and is preparing a related Act to be placed before the Manitoba Legislative Assembly.

TECHNOLOGISTS

MEMBERS:

E.A. Speers
W.R. Newton
W.D. Christie
W.B. Mackenzie
D.A. Ennis

At its April 1987 meeting, APEM Council appointed an Ad Hoc Committee on Technologists, with Ted Clarke as Chairman, and Messrs. Christie, Mackenzie, Newton and Speers comprising the remainder of the Committee.

The Committee considers that the Provincial Government ought to approve "Right to Title" for engineering technicians and technologists, but only through revisions to The Engineering Profession Act rather than separate legislation. In this context, Council at its July 1987 meeting authorized the Committee to discuss the matter further with MANSCETT and with the Provincial Government (specifically, Al Mackling, Q.C., the Minister responsible for The Engineering Profession Act). □

Council Reports

AUGUST 10, 1987 by W.G. McKay, P. Eng.

Where Council reviewed: procedures relating to applications for Licence, the fee schedule for 1988, the 1988 budget, an Association Brief to Government and the Mansett situation.

The meeting commenced with President Speers, Councillors Kjartanson, Clarke, Buhr, Christie, Newton, Hawaleshka and Saunders in attendance. Approval was given to applications for licence, registrations, transfers and reinstatements. It was noted that with three applications for licence, which were all from engineers in the same firm, virtually identical professional practice examinations had been received. Despite some indication that there might have been some collusion in writing the examinations, Council approved the applications.

Application Form For Licence: One of the questions on the application for licence form had been considered by the Executive Committee. The question related to the "type and nature of engineering work to be covered by this licence". After consideration the Executive Committee had recommended to Council that this question be deleted from the form. It was noted that the motion in the Executive Committee relating to the matter had not been unanimous. Council considered the matter and was divided in its opinion as to whether the question should be retained or deleted from the form. Some felt that the question discriminated against certain applicants. Some Councillors thought that the form might be rewritten to require that licences be issued for specific projects only. After further discussion the matter was referred back to the Executive Committee.

Payments of Dues and Periods of Grace: Earlier in the year Council had considered the question of grace periods relating to the late payment of annual dues by members. The matter had been referred to the Legislation Committee for consideration and recommendations. The committee had wondered why three Councillors opposed the question in the initial instance but the Councillors could not recall the reasons for their objections. The result of the discussion was a motion requesting the Legislation Committee draw-up the necessary proposed By-law changes to require annual dues be made payable by January 1st, an appropriate penalty to be paid by those paying between January 1st and March 1st with members being written-off for non-payment if the dues were not received by March 1st.

Annual General Meeting: The President asked Councillors to agree to act as hosts for visiting guests from other Provincial Associations. All Councillors agreed to perform this role when requested.

1988 Association Budget: The Registrar reviewed the financial statements for the past fiscal year. Based on projected final figures for the fiscal year ending July 31st, it would appear that approximately \$65,000.00 will be put into Association reserves. Council then considered the 1988 budget presented by the Registrar and approved by the Executive Committee and, after discussion, approved the budget. It was noted that the budget forecasts a deficit of approximately \$17,000.00. However, it was felt that increased returns on investments and strict monitoring of expenses could very well result in a break-even year financially. During discussion, the Registrar advised Council that a computer system would be installed in the Association office to streamline operations connected with the processing of Fees, Roster, Register, Records, Mailings, etc. The budget also includes funds to enlarge the Association's premises.

Fee Schedule: Council considered the proposed fee schedule for 1988. It was noted that it proposed no increase in fees for members. Other fees would be increased by approximately 5%. Council approved the new fee schedule.

Association Reserves: A discussion followed relating to the question of the level of Association reserves. The Association has no firm policy as to what level Association reserves should be maintained. Mr. Mackenzie advised that the question of Association reserves had been discussed with other Provincial Associations but opinions varied widely on what the level of reserves should be. A "rule of thumb" sometimes used is that reserves should be an amount to one year's operation expenses. It was noted that the Association reserves are approaching a level where Council feels that no further increase is required. This was the major reason for approving a deficit or break-even budget with no increase in fees.

Solicitation of Funds: The Executive Committee had considered several requests for funds but had recommended that the requests be turned down. The requests were received from the Western Design Competition and Council suggested that if there were to be any Association funds donated in connection with this event they would go to U of M Engineering Students participating. The other request

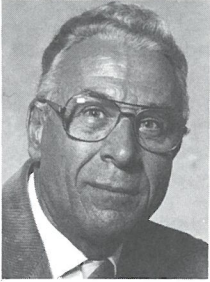
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PROFESSIONAL DEVELOPMENT

E.J. Klein, *Chairman*

The Professional Development Committee has completed a significant part of the work required in formulation of the professional development program requirements.

Major work components completed were the Professional Development Member Reporting Form and the Professional Development Committee Planning Document. The first mentioned has provided the initial input to the required database input referenced as a requirement in the second.

Members:

B.D. MacBride
A.H. Soliman
M.D. Clarke
J.G. Hildebrandt
E.F. Glass
S.L. Ursel
T.L. Maguire
W.B. Mackenzie
E.A. Speers
V.L. Dutton

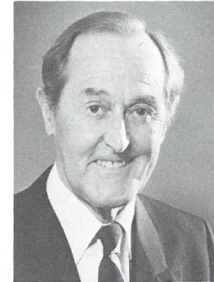
The Professional Development Committee Planning Document states the terms of reference of this committee and basically outlines the tasks necessary for derivation of membership needs assessment and the structuring of the required sub-committees.

The magnitudes of attendance and favorable comments with regards to the Professional Development Breakfast Meeting events has emphatically indicated membership acceptance of this professional development program component.

A computer bulletin board service to provide members with on-line professional development event information is presently under evaluation. Access to a computer facility for that purpose has been gratuitously provided by W.L. Wardrop & Associates.

Recognition for their significant contribution to the accomplishments of this committee is accorded to all committee members and Liaison Councillor Kelly Kjartanson. Donna Bilodeau is commended for providing excellent secretarial service to the committee. □

CONSULTING ENGINEERS

D.B. Whittaker, *Chairman***Members:**

E. Weiszmann
H. Haak
J. Klein
R. Morrison
D.J. Rossen
R.C. Isaak
D.K. Strang
E.A. Speers
W.B. Mackenzie
A. Penman

The business before the Committee this year was the completion of the two major items started last year—the reviews of the advisability of group practice and the Guide for the Engagement of Consulting Engineers.

The final report of the sub-committee on group practice was accepted by the Committee and forwarded to Council. The draft of the updated Guide also was submitted to

or funds came from the EIC for an advertisement in their special Centennial Publication.

Editor For The Manitoba Professional Engineer: Council was advised that Mr. Kelly Hearson had resigned as chairman of the Publication Committee and Editor of the Manitoba Professional Engineer after having given several years of excellent service and guidance to the committee. The President asked members of Council to suggest names of people who might be approached to see if they would be prepared to take the position of Editor.

Brief To Government: A draft of a proposed brief to the Manitoba Government was considered by Council with a request that they consider the contents of the document prior to next Council Meeting and pass on comments to the President. It was agreed that the brief would be placed on the agenda of the next Council meeting.

Reporters Note: I enjoyed the meeting. I noted that, as usual there are some items re-occurring for discussion but are not being solved. A pleasant repast of Chinese food with good fellowship was shared by all.

JULY 13, 1987 by K.J. Hearson, P. Eng.**At which Council recognized the work done by the Centennial Committee and requests terms of reference for a Public Relations Committee.**

With the regular supporting cast save for Councillors Saunders, McGilvery, and Hawaleshka, President Speers commenced the July 13th meeting by obtaining a resolution on the financial statements, licences, graduates, transfers, registrations and reinstatements. Council quickly gave approval to revisions to the Association's employees pension plan so that it is in accordance with the Pension Benefits Act of Manitoba.

Hoc Centennial Committee Commended: President Speers, on behalf of Council, thanked Chairmen Ostap Hawaleshka and Kelly Kjartanson as well as the rest of the committee for doing a commendable job in acknowledging the centennial of engineering in Manitoba. Further in the meeting, Council applauded the work of Bob Foster in connection with the Diorama at the Manitoba Museum of Man & Nature.

Public Relations Committee: Councillor Kjartanson proposed that the Ad Hoc Centennial Committee become a Public Relations Committee to "display" the efforts of engineers to the public. Council asked the Ad Hoc Committee to prepare terms of reference for consideration at a subsequent meeting. Comment was made on the intimacy between public relations and self-interest; with the point being made that Council must guard against involvement with matters of self-interest.

Research and Development Committee Terms of Reference: The terms of reference of the Research and Development Committee were not ready for Council's perusal; they will be put before Council when completed.

Across Canada Job Classification Rating Guide: The Salary Research Committee submitted a memo to Council enquiring about the possibility of establishing a common job classification rating system for job evaluation across Canada. This would then allow engineers to identify uniformly-based salary statistics for any region in Canada. Since reference of a "Nation Points Rating System" was made by CCPE in their May 1987 Board of Directors Meeting, Council agreed to contact CCPE to determine what their position is regarding this matter.

Engineering Act Infringement: Council approved a Practice and Ethics Committee suggestion to raise the issue of act infringement by out-of-province engineers with temporary licences to practice in Manitoba with CCPE. This action is in response to what some feel is a less than satisfactory resolution to a disciplinary action involving an Ontario Association member who has in the past practised with a temporary licence in Manitoba. Considerable discussion took place regarding discipline both of registered non-residents as well as non-registered non-residents, with Councillor Newton making some particularly valid points.

Letters of Condolence: President Speers put before Council a suggestion that letters of condolence be sent by the Association to surviving spouses of deceased members. No motion was presented.

No Mailing List For CSPE: Council agreed that the Canadian Society of Professional Engineers would not be given a copy of our Association mailing list. The meeting was adjourned at 7:30 p.m. □

Employee Engineers At Risk

From *Engineers and the Law*
Canadian Consulting Engineer,
July/August 1987.

Relevant rulings of B.C. Supreme Court have struck down the insurance shield which most of us have sheltered. Will your "Duty of Care" protect you? Abstract though this article may be in spots, it may well be of historical significance to the individual. —ed.

The British Columbia Supreme Court in the case of *London Drugs Limited v. Kuehne and Nagel International Ltd. et al* dealt with

the issue of the liability of employees for negligence in the course of their employment and declined to follow the reasoning in *Sealand of the Pacific v. Robert C. McHaffie Ltd. et al*. It appears that the protection previously afforded to professional employees has now been substantially eroded.

In *Sealand*, the plaintiff had contracted with the corporate defendant, *Robert C. McHaffie Ltd.*, Naval Architects to advise it concerning proposed improvements to its

oceanarium. The improvements involved the underwater use of a special lightweight concrete. McHaffie Ltd. failed to make the appropriate enquiries which would have revealed that the product was entirely unsuitable for that application. The plaintiff proceeded with the improvements which were unsuccessful.

The plaintiff then commenced an action against, among others, both Robert McHaffie Ltd. and McHaffie personally on the basis of the statements made by him regarding the suitability of the concrete. The British Columbia Court of Appeal held Robert McHaffie Ltd. to be liable for breach of its contract, but absolved McHaffie personally, on the basis that the plaintiff had not relied on his skill but rather on the skill of his corporate employer with whom it had contracted. The Court of Appeal also held that an employee's duty of care is owed to his employer, not to a third party under contract with his employer.

In *London Drugs*, the British Columbia Supreme Court held that two employees of the defendant Kuehne & Nagel International Ltd. were personally liable to the plaintiff for negligence in the course of their employment. In that case, the plaintiff London Drugs had arranged to store a transformer unit weighing approximately 7500 lbs. with the corporate defendant.

The storage contract limited the liability of Kuehne and Nagel Ltd. to \$40 on any one package. The transformer unit was contained in a wooden crate around which was fastened a steel cable for moving it. There were warnings apparent on the outside of the crate directing handlers to "lift by cable supplied", and prohibiting the use of a forklift. Two employees of Kuehne & Nagel attempted to move the transformer by forklift. It "toppled over" and suffered approximately \$34,000 worth of damage.

The Supreme Court held that although the employer Kuehne and Nagel Ltd. was liable for the negligence of its employees in the course of their employment, its liability was limited by the storage contract to \$40. The employees, however, were unable to take advantage of the contract as they were not parties to it and were therefore liable personally.

The *Sealand* reasoning was not followed in *London Drugs* on the basis that in *Sealand*, there was no reliance by the plaintiff on the defendant in his personal capacity. To distinguish *Sealand* on that basis implies that there was reliance by London Drugs on the two defendant employees in their personal capacities. The result is contrary to what one would expect.

Professionals generally expect to be relied upon and are relied upon in their professional capacity which is inextricably linked to

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Council. On both occasions the Chairman of the Committee attended a Council meeting to provide explanation and answer questions.

Currently, the question of group practice remains under review by Council. The new edition of the Guide has been accepted by Council and printed and is available from the Association.

J.G. Malus resigned from the Committee after many years of much appreciated service, culminating in the chairmanship of the sub-committee on group practice.

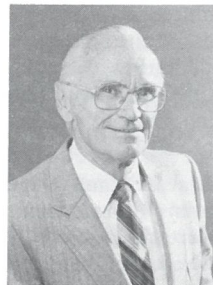
Sincere thanks once again to Donna Bilodeau and to Mr. Mackenzie for their continuous strong support. □

results indicated that the average increase for engineers was 5.36 percent.

The Committee requested that the APEM Council approach CCPE to explore the possibility of establishing a common classification rating system for job evaluation across Canada.

Many thanks to the committee members along with Bill Mackenzie, David Ennis and W. McGilvery for their valuable contribution. Special thanks to Donna Bilodeau who assisted the Committee with its work at the Association office. □

SPORTS



Bill Saunders, *Chairman*

Members:

B.J. Mather
H. Wilson
M.D. Vanderpont
L.B. Birdsell
C. Kohuska
D. Zelich
P.C. Cohoe
E.H. Garfinkel
W.B. Mackenzie
E.A. Speers

SALARY RESEARCH



Members:

C.E. Anderson
B.G. Bettess
D.G. Chapman
C.E. Ireland
B.F. Klaponski
E.G. Parker
J.M. Symonds
E.A. Speers
W.B. Mackenzie
W. McGilvery
(Liaison Councillor)

Dr. S. Rizkalla, *Chairman*

In 1987, the APEM Council approved a change in the Committee's name from the Salary Schedule Committee to the Salary Research Committee. The change was based on a proposal, submitted by the committee, changing the terms of reference to reflect the goal of the committee. The main purpose of the Committee is to produce a report of professional engineers' salaries for use by the public, and by Association members.

During 1987, the Salary Research Committee conducted a membership salary survey as well as an engineering employers survey. The results of the two surveys were published in the Manitoba Professional Engineer, August 1987. The results were classified according to the year of graduation discipline, field of employment and principal function. The mean rates of pay for engineers across Canada were also presented. The survey

The committee held four meetings during the past year.

The annual curling bonspiel took place on January 13, 1987 at the Granite Curling Club with 32 rinks participating. The Presidents Cup was presented by President Ted Speers to the winning team of Murray Vanderpont, Lance Sigfusson, Harvey Kaita and Jim Suzuki. A total of 36 prizes were presented thanks largely to sponsorship by 11 companies.

The spring Golf Tournament was held on June 15, 1987 at the Bel Acres Golf & Country Club; 142 golfers played in a record high temperature. President Ted Speers presented the Landon Trophy to Harold Wilson for low gross score of 83 and the Sullivan Trophy to Bob Harris with a low net score of 66. A total of 21 prizes were won, due in a large part to the sponsorship of 16 companies.

A big vote of thanks must go to all the committee members and the office staff for their fine co-operation and support. □

The Ten Most Exceptional Feats of Canadian Engineering's

First Century ...We continue our series featuring engineering feats of the century.

Hydro-Quebec's Construction of the James Bay Very High-Voltage Transmission System

November 29, 1965: An engineering breakthrough! For the first time electricity is sent through cables at a level of 735-kilovolts. It happened in Quebec between Manic-Outardes and the Boucherville station located near Montreal. Hydro-Quebec was responsible for the project.

Completed by 1985, this impressive transmission system carries the 10,000 megawatts produced at the James Bay generating stations to the urban areas in southern Quebec. The five 735-kilovolt lines, forming a total length of over 5,000 kilometres, comprise 11 650 towers. During construction, 2,000 workers annually assembled and erected 30,000 tonnes of steel and installed 10,000 kilometres of conductors.

The transmission system comprises 19 switching and transformer stations for regulating the voltage level and facilitating maintenance. A telecommunications network with redundancy ensures power system reliability: the data needed for operation and protection of the generating stations and lines is transmitted to the control centres by means of 53 repeater stations.

It was no easy task to send electricity at such a high voltage over distances as great as these. By opting for the 735-kilovolt level, the utility was able to take advantage of proven equipment and materials, ensure easy integration into existing and future systems, and offer both reliability of supply and the lowest possible cost of energy at the delivery point.

At the same time, Hydro-Quebec has to minimize the environmental impact of the transmission system and protect the land it crossed. The challenge was formidable, but the utility met it with flying colors.

The Athabasca Oil Sands: Engineers Responding to a "Mega Challenge"

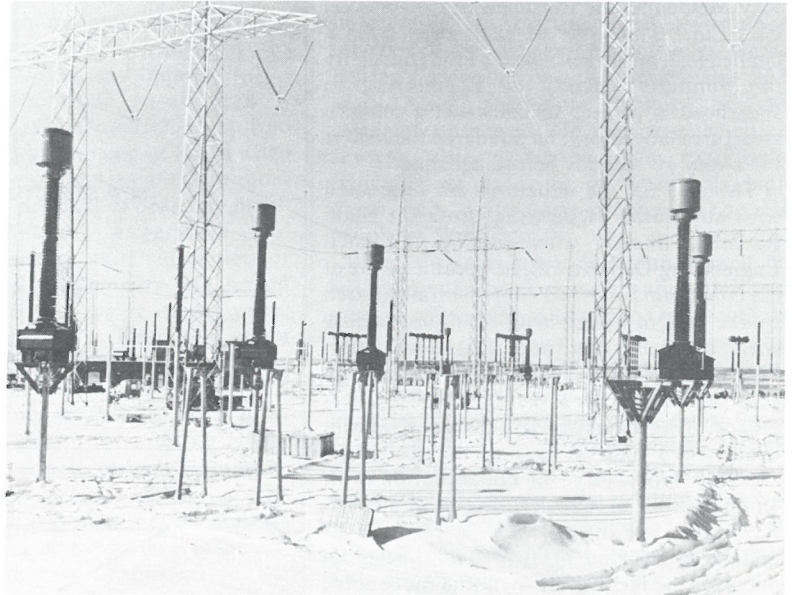
The successful development of the Athabasca oil sands in northeast Alberta captures the true meaning of the word engineering. Recognized as one of the outstanding endeavors of the past century, the Suncor and Syncrude developments at Fort McMurray depend on the technical expertise of virtually every engineering discipline.

While the engineering design phase of the two mega projects consumed approximately eight million engineering man-hours, preliminary work revealed the possibility of Canadian self-sufficiency in energy. When construction started in the area, Fort McMurray had a population of 1,000. Within 15 years — from 1963 to 1978, it was transformed from a small village supported by trapping, logging, transportation, fishing and salt mining into a modern urban centre of 25,000 with an energy-based economy.

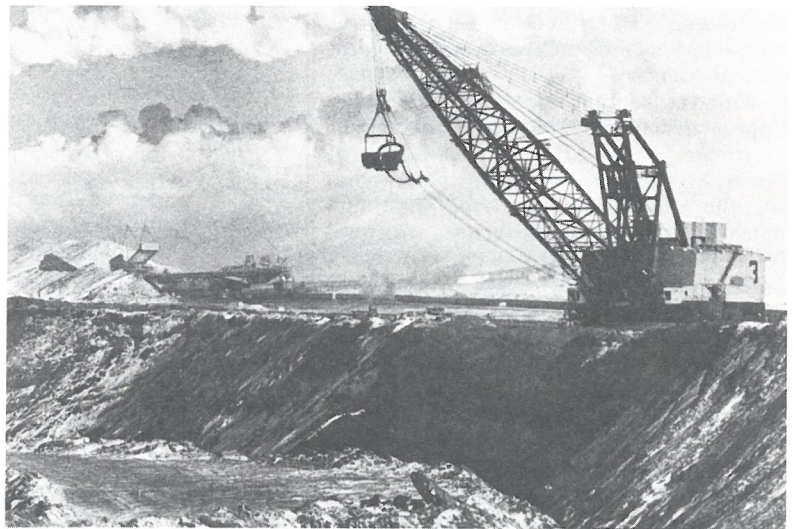
Early engineers confirmed the feasibility of extracting oil sand and selling a commercial product. They suggested that if equipment was designed specifically for the extraction of bitumen, it could run successfully for sustained periods of time, producing a suitable product for further processing. Plants now producing synthetic crude oil from surface extraction of bitumen will continue to improve technology as government and industry seek new alternatives.

The Athabasca oil sand deposits contain 1/3 of the known quantities across the globe, and Suncor and Syncrude, the world's only commercial oil sands production plants, produce about 187,000 barrels of synthetic crude a day. At the present rate of consumption, the oil sands, if fully developed, could supply the Canadian oil requirement for 270 years.

Today, the Alberta Oil Sands Technology and Research Authority (AOSTRA) is a partnership of government and industry where dedicated scientists and engineers engage in practical, technological development to enhance the efficiency of oil sands recovery in the province. □



A graphic example of the engineering achievements of Hydro-Quebec.



A "monolith" at work at the Oil Sands.

Iron Ring Ceremony Set for November 17 at U. of M.

by W.G. McKay, P.Eng.

The fall ceremony of the Ritual of the Calling of an Engineer is tentatively scheduled for Tuesday, November 17, 1987, in the Tartan Room of the Food Services Building at the University of Manitoba. Any engineer wishing to be obligated at this ceremony should contact Dave Sexton at 945-7488 (Bus.) by the end of October 1987. Obligated engineers wishing to attend can confirm the time and place by also calling Dave Sexton. □

Wine to Warm Winter Nights

Faced with a surplus of two million hectolitres and mindful of an European Economic Community directive encouraging the use of alternative fuels, French officials are pitching wine for use in thermal power stations.

The French are asking about \$15 per hectolitre for the surplus wine and feel that, compared to petroleum, the price is "attractive."

Previously, officials had tried to unload the wine as an alternative fuel for automobiles. If not sold as fuel, it will be given to perfume companies.

McQuade Heads Up Structures Laboratory Project

by Glenn Morris, P. Eng.

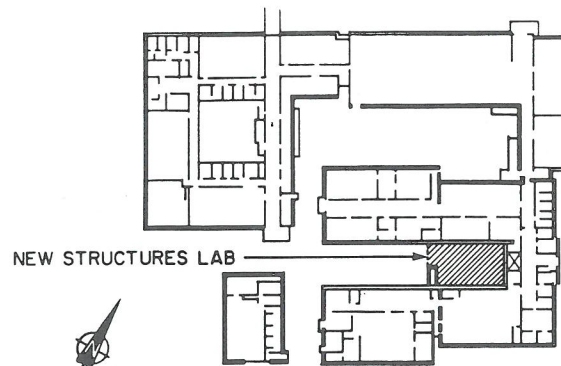
Ray McQuade, the President of Cowin Steel Co., Ltd., is not one to back away from a challenge. Thus, when asked by the University of Manitoba Faculty of Engineering to spearhead a project to construct a modern structures laboratory, he pondered the matter for about 10 seconds before agreeing.

The idea for the structures lab originated with structural engineering professor Sami Rizkalla. Shortly after joining the Civil Engineering Department, he became aware of the constraints imposed on structural research by the lack of a high-head-room test facility with crane service and a strong floor. Identifying a little-used parking and storage area surrounded on three sides by the three-storey Engineering Building, Rizkalla conceived a plan to enclose the space and create a laboratory. In collaboration with Colin Gibbs, of Crosier Kilgour Partners, Rizkalla arranged for a group of undergraduate students to prepare conceptual plans for the facility. He then sold the concept to colleagues in the Civil Engineering Department, and subsequently to Dean Ed Kuffel and Associate Dean Glenn Morris, who in turn secured the approval of President Arnold Naimark.

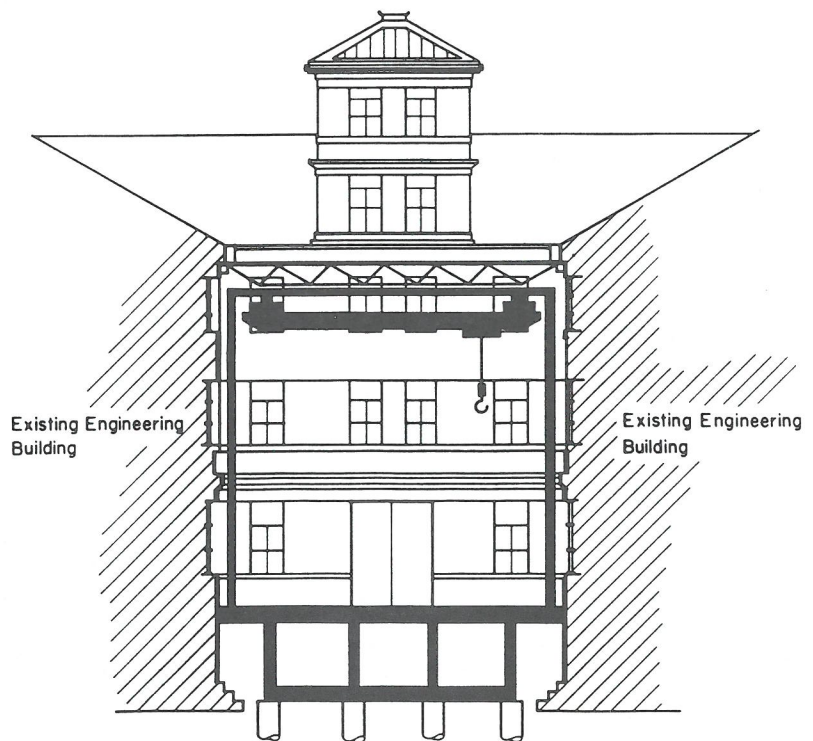
With the concept approved, the Faculty approached Mr. McQuade (a former chairman of the University's Board of Governors) in May 1987 with the proposal that he solicit donations from past and potential users of the University's structural testing facilities. He went to work immediately, and by August 1987 had recruited the following participants to provide goods and services at no cost to the University: **Project Management** — Bo Gulay, P.Eng., W.L. Wardrop and Assos.; **Architectural Consultant** — Easton Lexier, P.Eng., GBR Associates; **Structural Consultant** — Dave Kilgour, P.Eng., Crosier Kilgour & Partners; **Electrical & Mechanical Consultant** — Ray Scouten, P.Eng., Scouten Mitchell Sigurdson & Associates; **Geotechnical Consultant** — Al Dyregrov, P.Eng., Dyregrov & Burgess; **General Contractor** — Maurice Steele, V.K. Mason Construction; **Test Borings & Foundation Piles** — Don MacKenzie, Subterranean (Winnipeg) Ltd.; **Reinforcing Steel Supply** — Ray McQuade, P.Eng., Cowin Steel Co., Ltd.; **Rebar Placement** — Paul Wryha, P.M. & L. Reinforcing; **Structural Steel Supply & Erection** — Mike Schioler, P.Eng., Dominion Bridge Co., Ltd. — Vic Becker, P.Eng., Empire Iron Works Ltd. — Arnold Swirdijuk, Abesco Ltd.

Contract drawings and specifications will be completed by March 1, 1988, at which time Mr. McQuade will approach other members of the construction industry, suppliers and manufacturers for help in realizing the completion of the project. Construction will commence in mid-1988.

Despite the limitations of the current



LOCATION OF PROPOSED STRUCTURES LAB



CROSS SECTION OF PROPOSED STRUCTURES LAB

structural test facilities, the Faculty has for many years conducted research in support of the Manitoba construction industry. Recent projects include the testing of: cold-formed steel angles for transmission towers, and timber poles for transmission lines, both for Manitoba Hydro; connections in precast concrete load-bearing shear walls, and segmental construction techniques in the repair of concrete tanks, sponsored by Genstar Structure Ltd.; precast products for Barkman Concrete Ltd.; and precast manhole rings for Transport Canada. Laboratory mechanical vibration tests have been done on Sperry Univac computer components, and field load testing of CN railway bridges and bridges on the Disraeli Freeway has been carried out.

A number of projects have been conducted under grants from the Natural Sciences and

Engineering Research Council. They include investigations of the behavior of hollow-structural section truss joists, steel beam-to-column connections, and prestressed flexural members with welded-wire-fabric shear reinforcement, and a study of time-dependent effects in masonry columns.

Commenting on the structures laboratory project, Dean Kuffel said "The Faculty is extremely grateful for the generosity and good will demonstrated by the local consulting and construction community." We particularly appreciate the leadership provided by Ray McQuade, a long-time very good friend of the faculty and the University. The new facility will be a great asset to the Manitoba engineering and construction community."

Further information can be obtained from Glenn Morris, P.Eng. (474-9808). □

HENRY NORLANDE RUTTAN: WINNIPEG'S FIRST CITY ENGINEER

by Dr. Norman R. Ball,
National Museum of
Science and Technology

Being city engineer of a major metropolitan center has never been easy. It is doubly difficult if the city is undergoing extremely rapid growth and immeasurably more so if it is pursuing grandeur relentlessly while trying to introduce a greater degree of freedom from the grip of seedy politics and contract jobbing. From 1885 until his retirement in 1914, Henry Norlande Ruttan served as City Engineer for Winnipeg, Manitoba. More than any other individual, he created the clean and attractive Winnipeg of today which is a far cry from the city he found when he moved west from his native Ontario.

Ruttan was born in the thriving port of Cobourg, Ontario, in 1848. His father, Henry Ruttan, was well-known in some circles for his patented heating and ventilation systems which were used across North America for buildings and railroad cars. To others the elder Ruttan was not an inventor but the outspoken and fearless editor of the *Cobourg Star*, where in an age of fiercely partisan and frequently dishonest politics, he left a long trail of sometimes bombastic articles and pamphlets followed by letters to the editor after his retirement. Speaking out was a family tradition stretching back at least one more generation to another Henry Ruttan, speaker of Canada's first legislative assembly. This tradition stood Henry Norlande Ruttan in good stead when as City Engineer his side of the argument had to be heard beyond council chambers.

Like many engineers of the day, Ruttan seems to have bypassed college. Engineering was learned on the job and after a stint in military life beginning at age 16, he joined the Chief Engineer's Department of the Grand Trunk Railway in 1868. Here he worked with and learned from E.P. Hannaford, one of the great Canadian civil engineers of the day. Ruttan next worked with another of the greats in Canadian engineering history, Sir Sandford Fleming, who was then building the Intercolonial railway from Quebec to the Atlantic seaboard. Soon Ruttan found himself on the biggest Canadian engineering job of the day — building the Canadian Pacific Railway (CPR). From 1874 to 1876 he headed the location party between the Rocky Mountains and Edmonton. He spent three years as contractor's engineer on construction work between Winnipeg and the Lake of Bays. Next he was engineer in charge of building the CPR section from Rat Portage, now Kenora, to Cross Lake. This pattern of increasing responsibility on larger jobs was followed by his decision to strike out on his own. From 1880 to 1885 he ran his own engineering business in Winnipeg.

As a Winnipeg-based consulting engineer, Ruttan broadened the base of his experience and amassed a growing list of satisfied clients. His railroad work continued with the

Manitoba and Northwest Railway as well as the Manitoba and Southwestern Railway. He grew increasingly familiar with the engineering needs of a rapidly growing boom town being lifted out of its fur-trading past by the railroad, agriculture, and industry.

By 1885 Ruttan had established a reputation as an experienced engineer who was not afraid to stand up and be heard when engineering know-how and insight were about to be crushed by political expediency or ill-gotten gain. Ruttan's experience and character made him an excellent choice for Winnipeg's first City Engineer. He served from 1885 to 1914. During these years, according to Canada's foremost urban historian Alan Artibise, "...the sub-metropolitan center of Winnipeg evolved into a full-fledged network that enabled it to control a hinterland stretching from northwestern Ontario to British Columbia. For almost three decades following the completion of the transcontinental railway, the city of Winnipeg enjoyed a level of growth and prosperity that is unequalled in the history of Canadian urban development." (Alan Artibise, *Winnipeg, An Illustrated History*, Toronto: James Lorimer & Company, 1977, p. 30).

Winnipeg became so enthused with becoming the "Chicago of the North" that all too many residents saw growth as the only purpose of urban life and the only yardstick of progress. Under these circumstances the City Engineer often found himself in difficult situations. Charged with supplying the orderly infrastructure needed for growth, he often worked in an environment which was the antithesis of orderly growth, and often of honesty as well.

"Even though his dismaying honesty led to many a 'Get Ruttan' campaign, none succeeded."

Many thought the main job of the City Engineer was to do as told, advocating and endorsing publicly the projects which would most benefit those behind them — railroad promoters, crooked sewer and street contractors, or politicians on the take — and then disappearing quietly until needed again. This sorry state of affairs led Thomas Coltrin Keefer, one of Canada's most eminent and internationally acclaimed engineers, to tell a Montreal audience that "too often the senior engineer is the Junior Partner of the firm Grab, Chisel & Co." Throughout his career Ruttan made it clear that he was not about to join the firm. Even though his dismaying honesty led to many a "Get Ruttan" campaign, none succeeded.

In its hurried fight towards becoming the Chicago of the North, Winnipeg gave much of the responsibility to City Engineer Ruttan, a man often referred to by his military rank of Colonel, later Brigadier-General. As a staunch advocate of public ownership of

utilities, he gave Winnipeg its own source of electric power with drastically reduced rates. In addition to building miles of paved roads he saw to it that the city acquired its own stone quarry and asphalt paving plant. In each case Ruttan's views evoked strong criticism and earned him passionate enemies but he remained unswayed. He also gave the city a sewage system which was extremely important in reducing the needlessly high death rate, particularly among the poorer people of Winnipeg.

Of all the areas in which Ruttan worked, he left his greatest mark in water supply. His two greatest works still stand today. One functions daily and the other is an engineering monument which might become a museum. Fire was one of the great fears of the burgeoning industrial and commercial cities during the late nineteenth and early twentieth centuries. Pumping systems often ran dry, for water pressure might drop perilously low as water was drawn from more and more hydrants. As warehouses, factories, offices, and distribution facilities filled more and more of downtown Winnipeg, the city decided it needed a high-pressure water system for firefighting in the heavily populated area. The job fell to City Engineer Ruttan. In the James Avenue High Pressure Pumping Station, which was decommissioned only recently, a gleaming brass plaque displays the name of the City Engineer.

Ruttan's greatest achievement was not completed until after his retirement. Although he was responsible for developing an extensive artesian well system, Ruttan knew that the city needed a larger water-supply system. The Shoal Lake Aqueduct, opened in 1919, draws water from a distance of 97 miles and is a landmark in both modern concrete construction and water-supply systems. It is also a testimonial to Ruttan's sagacity, political skill, and staying power. He had pushed for a better water supply, and as various consulting reports and politicians came and went it was Ruttan who supplied the continuity and unrelenting demand for a water-supply system built to meet future rather than past needs.

In evaluating the role of Ruttan and finding his place in history one must look beyond the confines of Winnipeg.

Ruttan, the outspoken Winnipeg City Engineer, was one of the signatories of the Charter of the Canadian Society of Civil Engineers, a councillor from 1887 to 1906, vice-president in 1909, and president the following year. His work in the growth of engineering as an organized profession was one part of his lifelong quest for greater independence and respect for engineers and other public works professionals. In his daily conduct he stood as a symbol of the strength, staying power, and confidence then needed if one was to survive as an honest City Engineer.

Ruttan left Winnipeg a much finer place than he found it and gave it a yardstick by which to measure all other city engineers. □

The Ritual of Calling of an Engineer

by W.B. McKay, P.Eng.

The first thoughts of a ritual began in 1922, 65 years ago, at the 36th Annual Meeting of the Engineering Institute of Canada in Toronto. Professor H.E.T. Haultain of the University of Toronto's, Faculty of Engineering, put forth some thoughts on the development of a professional oath or creed to which young graduate engineers could subscribe, which would provide a basis for a high level of professional conduct among practicing engineers. Also interested in such a plan were six other past-presidents of EIC who, along with Professor Haultain, became members of a committee with J.R. Fairbairn, then Chief Engineer for the Canadian Pacific Railway, as Chairman. The other six members of the committee were Messrs. G.H. Duggan, Phelps Johnson, G.A. Mountain, R.A. Ross, W.F. Tye and H.H. Vaughan.

Some ten months later Professor Haultain suggested to the committee that Rudyard Kipling may be the person to put things all in place and, with the chairman's approval, he contacted Kipling. Within one month, Kipling replied with the Ritual of the Calling of an Engineer together with notes, which formed the basis of the ceremony in use to this day.

Some interesting notes on the procedure proposed by Kipling were as follows:

1. The Ritual was to be unalterable, except by the authority of the past presidents of EIC.

2. The EIC past presidents would also be responsible for the landmarks of the calling.
3. Whereas it would be directed to newly graduating engineers, Kipling suggested that young engineers, now active, or even older ones, might find it "both tonic and refreshing to be obligated". Kipling expressed a preference for "obligation" rather than "oath".

By March 1925 the Ritual was in place having received approval of all seven past-presidents. Consideration was given to placing the control of the Ritual with Engineering Alumni Associations, but by March 1926 the establishment of a Camp was confirmed as the local authority for the operation and continuation of the Ritual on a regional basis.

Three years and four months after Haultain's first suggestion, the first ceremony was held in Montreal on April 22, 1925, when, so to speak, six engineers obligated themselves.

The governing body for the Ritual of the Calling of an Engineer has been a group of Seven Wardens from the very beginning. In March 1938 a charter was granted formally constituting the Corporation of the Seven Wardens as the governing body, subsequent to Letters Patent being issued by the Lieutenant Governor of the Province of Quebec. To the best of our information, two Wardens of the Corporation have been chosen from Camp No. 8. The first was Donald McGregor Stephens, formerly Chairman of the Manitoba Hydro, who had been a Warden for a number of years until his death on April

2, 1968. The second was Professor Jack (Jack) Hoogstraten, formerly Dean of the Faculty of Engineering at the University of Manitoba, who was a Warden from October 8, 1968, until his death on November 11, 1983.

With the Ritual, the Laws of Governance and the landmarks established, the Wardens commenced extension of the benefits to other engineers from coast to coast, through the establishment of Camps.

On April 10, 1930, Warden Fairbairn instituted Camp No. 8 obligating Messrs. C.H. Attwood, D. Birse, G.E. Cole, Dr. J.S. DeLury, H.B. Lunsden and H.W. McLeod. The first five mentioned above, along with J.W. Sanger, and F.W. Seibert were the original seven Wardens of Camp No. 8. At that time Mr. Attwood was the President of the Association of Professional Engineers of Manitoba.

In 1974, the Camp suffered the loss of their early records, through a theft which took place while the records were in transit. Hence, the history of the Camp is sketchy prior to that date.

Over the years the tradition has been for Camp No. 8 to meet in the spring for the purpose of obligating engineers. In the 1950's and 1960's these meetings were held in the Masonic Temple on Donald Street at Elm Avenue. For a couple of years in the early 1970's the meetings were held at Red River Community College; and subsequently at the University of Manitoba Campus, with the exception of a couple of years in the late 1970's when they were held at the Masonic Memorial Temple on Corydon Avenue due to renovations being undertaken at the University Campus. In 1973, S.S.E. Keith Ebbert, accompanied by Les Wardrop, initiated the practice of addressing the senior year engineering students at the University of Manitoba a couple of weeks prior to the spring ceremony. In 1977, the first fall ceremony was held at the Masonic Memorial Temple on Corydon Avenue with Leonard A. Bateman as Senior Supervising Engineer.

On April 4, 1974, S.S.E. Keith Ebbert conducted a ceremony at Thunder Bay for the first class of engineers graduating from Lakehead University. He was assisted on this occasion by Wardens W.L. Wardrop, A.G. Moffat, and J. Putnam. Camp No. 21 was subsequently established at Thunder Bay, and has obligated the graduates from that time forward.

To date, 75 ceremonies have been held with 7886 engineers obligated.

As the early records of the Camp were lost, it would be appreciated if anyone having knowledge of the activities, Wardens or officers of the camp prior to 1974 would send this information to Bill McKay at 19 Carmarthen, Winnipeg, Manitoba, R3P 0B3, Phone 888-9396 (Res.) or Charlie Bouskill at 395 Waverley Street, Winnipeg, Manitoba, R3M 3K5, Phone 934-3374 (Bus.).

ENGINEERS AT RISK *continued from page 10*

their personal experience, training and qualifications. Clients or customers are interested in the persons whose services they have retained when a contract is made with the corporate employer. Conversely, it is difficult to establish that same degree of interest in the individuals extending to the non-professional employees. Yet *London Drugs* heads to this conclusion.

The court in *London Drugs* went further than the court in *Sealand*, as it also found a duty of care that was owed by the employees to the employer's customers to avoid negligence in performing their employer's contract.

The *London Drugs* case, therefore, has undermined *Sealand* to a considerable extent. The result is an increase in the exposure of employees at all levels for negligence occurring in the course of their employment. If this case is upheld on appeal it will force new approaches in many quarters of the construction industry. For instance, the risk of proceeding with no insurance coverage, or "going bare" is now less attractive, as the ability to allocate risk through the medium of a contract is questionable.

It may be possible, however, in a carefully

drafted contract, to provide protection to employees. If the contract is to limit the liability of a company, the clause should be expanded to extend to include the company's employees. The other contracting party should acknowledge consideration flowing from the employees and the recitals to the contract should further assure that acknowledgement. Additionally, the company will need its employees' authority to enter into contracts on their behalf. This can be accomplished by having each employee provide a specific written authorization to the company at the time of his or her employment. Once employees are made parties to the contract in this or some other fashion, they should be entitled to the protection afforded the contract and not find themselves faced with a debilitating claim for personal liability as did the employees in the *London Drugs* case.

As a final note, employees of most corporate concerns are afforded protection by their employer's liability insurance. With these recent developments in the law it becomes more important than ever for employees to ensure that insurance coverage is both in place and effective. □

Constructive Criticism Builds Stronger Organization

The object of criticizing another person's performance is to ensure that the performance improves. A discussion of this type can be difficult for both a manager and an employee and to make it as painless as possible there is an appropriate time, place, and method.

When it is done well, it can build a strong relationship. However, it can be a touchy matter and a person can become defensive or react in some other adverse manner. If the discussion is poorly handled, the relationship can be destroyed.

A manager who knows that an employee's performance needs improvement but fails to advise the employee of his thoughts abdicates his responsibility. Problems develop because the employee is not aware of what is expected of him.

This is not the employee's fault; it is the

manager who has failed in his responsibility to groom the employee. Further, he is at a significant disadvantage in the event of a wrongful dismissal lawsuit.

A president of a Toronto manufacturing firm had a track record of litigation proceedings. He tolerated substandard performance from his staff and failed to deal immediately with performance problems.

His management style was inconsistent and some people never know they had done a poor job until his pent-up frustration exploded and they were fired.

Now he handles things differently. Shortly after any problem performance, he arranges a private meeting in his office—certainly well before the action has a chance to recur. He uses these guidelines to criticize a person's performance:

- Identify what was done and state the stan-

dard expected. The specific situation is recalled and the deviation from the standard is detailed. It is made clear that regardless of why, the standard was not met.

Care is taken to deal with the person's actions, not his personality. (Before changing his style, the president frequently dealt in personalities, such as calling people stupid, and this naturally had a detrimental impact on relationships.)

The president realized that when personalities were bruised, the employee remembered the messenger, not the message.

- Ask for an explanation. The employee is given a chance to explain the circumstances and why he acted as he did. This opens the lines of communication.

The president listens attentively and assesses the logic behind the actions. Developing a common understanding about what happened becomes a building block for both to jointly seek to improve the performance.

- Restate the standard of performance and detail the impact of the poor performance. The employee is then asked what he plans to do to prevent the situation from recurring. Asking the person with the problem for solutions is designed to get the employee to think about ways to improve and to motivate himself to do a better job.

The president ensures that proposed solutions are capable of rectifying the situation. Usually, he has to add his thoughts, for had the employee known what to do, he possibly would have done the job correctly in the first place.

- Express your feelings about the performance and restate confidence in the person. When an employee's performance falls below standard, the employee usually knows first and is predictably disappointed in his own performance. When the president mentions this, it clears the air.

He does not leave the conversation dangling and his closing comments express confidence in the employee. One way might be to say: "I'm not going to let you get away with this for I know you are a capable person."

When he states that he believes in the capabilities of the individual, the employee is buoyed and leaves the discussion on a high and with a desire to do better.

- Another date and time is then scheduled so the president follows up on this problem area. This ensures that the employee knows that what he did in the past is not acceptable and that guidance is available.

By learning to deal with situations as they arise and in an open and honest manner, the president has earned respect, is getting better results and is still on friendly terms with his people.

While some managers only criticize and never compliment a person's performance, others compliment and never criticize. What's needed is a healthy balance between the two extremes. □

THE FIFTH DECADE OF APEM: 1960 - 1969: The Rock and Rolling Era

by D.N. Spangelo, P.Eng.

Continuing our series of historical notes taken from Council Minutes, we now look at 1960-69, The Rock & Rolling Era.

In 1960, 21 members of the Association along with 27 Architects travelled to London, England to study local concrete practices and techniques. Manitoba hosted the 74th Annual E.I.C. meeting in Winnipeg.

The main event of the year was the great debate over acquiring permanent quarters. Finally, a special meeting of Council was called at which the idea was rejected due to cost.

One of the highlights of the 1961 Annual Meeting was a presentation by a member of the Engineers Confederation Commission on forming a new national body. Their proposal was to combine the existing Canadian Council of Professional Engineers and the Engineering Institute of Canada.

In 1962 Council authorized the purchase of \$12,000 of Province of Manitoba Savings Bonds at a rate of only 4¾ %.

Studies and design of the Red River Floodway were into full swing, with many local Engineers involved in the design.

It was also noted in the November, 1962 issue of the Professional Engineer that Andy Baracos took the Man of the Year Award. It seems that when obtaining supplies for the soils lab, he was seen in a drug store purchasing 12 dozen prophylactics. When asked why he required so many, Mr. Baracos replied "for educational purposes".

This year also marked the 75th year of Engineering in Canada. In 1963 many Council discussions concerned the confederation of Provincial Associations. However, a national vote was held which rejected the proposal. The joint agreement between the APEM and the EIC was also dissolved after some 12 years.

In 1964 Council agreed to take steps to secure the services of a full time Registrar. Mr. Terence W. Algeo, P.Eng. was appointed the APEM's first permanent Registrar in 1965.

The hiring of additional permanent staff and the acquisition of increased office space caused a large increase in expenditures. This coincided with a 15% reduction in membership, and thus revenue. Therefore, Council spent much time discussing how to increase membership. It seems there were enough Engineers in the province, but the problem was that they were not all registering. Perhaps an Act Enforcement Officer would have been useful even then.

In 1966 Council gave approval to provide 15% of Mr. Algeo's time as a joint Registrar with the Manitoba Society of Certified Engineering Technicians and Technologists.

In 1967 Council called a special meeting on collective bargaining since other provincial associations were setting policies at this time. Several significant points were made, one being that all members accepting professional status in our society, must be prepared to forgoe certain rights, i.e. actions of strike. Another point raised was that senior members who are now in a management position have a responsibility to assist the profession as a whole in providing a strong support for adequate salaries and conditions for employee-engineers.

In 1968 it was noted at a Council meeting that ten to twelve letters from prospective immigrants were arriving daily at the APEM office.

In 1969 Annual Fees were set at only \$30.00 a year. And man lands on the moon.

News from other Associations

Videos: A number of Associations are making videos on professional engineering topics available to their membership. The Saskatchewan Association has two, one entitled "Saskatchewan Engineering" and the other "Engineering Ethics". The Quebec Ordre has one entitled "Professional Engineer", and the Alberta Association has "It's Up To You". The Ontario Association also has two, "The Invisible Profession", and "Whistle Blowing and the APEO". The earlier APEO movie "The True Steel Affair" is also now available in video format. The New Brunswick productions are "Liability Insurance" and "Professional Engineer".

In British Columbia the Engineering Profession Act was amended in July and one of the new provisions is that any person who

practices engineering without being registered or who fraudulently obtains registration can be subject to tort action by the Association and be fined up to \$10,000, with a fine being paid to the Association.

At its Annual Meeting in June the Alberta Association approved a revised Code of Ethics and proposed changes to their Act. One of the changes was made to clarify the requirement for municipal governments to hold a permit to practice engineering. The meeting also approved a recommendation that the Provincial Statute of Limitations be amended to restrict the commencement of legal actions against an engineer, geologist or geophysicists to six years following the completion of the project rather than a present indefinite period.

The Northwest Territories Association preparing to host the Annual General Meeting of the Canadian Council of Professional Engineers in Yellowknife in June, 1988.

The New Brunswick Association will be holding two seminars this fall, the first will be on the Engineer-in-Training and the other will be on Quality Assurance.

The presentation of the proposed revised Engineers Act in Newfoundland to the House of Assembly has been delayed pending the resolution of an objection by the Newfoundland Association of Architects over the use of the word "building" in the definition of engineering. □

The Professional Engineer's Wives Association of Manitoba Program 1987 - 1988



- Oct. 27/87 Dinner and Races
Terrace Dining Room
Assiniboia Downs
3975 Portage Avenue
Members and Spouses
6:30 p.m.
Dinner 7:30 p.m.
- Nov. 24/87 Luncheon
Holiday Inn Downtown
350 St. Mary Avenue
Speaker—Dr. Terrence Jolly
—Aging Gracefully
- Jan. 26/88 Luncheon and Tour
—Vistas of Promise
Winnipeg Art Gallery
300 Memorial Boulevard
- Feb. 23/88 Luncheon
Manitoba Club
194 Broadway Avenue
Olympic Gold Medal Chef Yoshi
Chubachi to speak
- Mar. 22/88 Luncheon and Fashion Show
Carleton Club,
280 Fort Street
- Apr. 19/88 Luncheon and Annual Meeting
St. Charles Country Club
100 Country Club Boulevard,
Assiniboia
- June 7/88 Golf, Bridge and Lunch
Luncheon Reception - 12:15p.m.
Lunch - 1:00p.m.
For further information, contact Linda
McQuade at 257-4735 or M. Foster at
837-8103.



SOCIETIES: The Canadian Society of Agricultural Engineering

by M.G. Britton, P.Eng.

The Canadian Society of Agricultural Engineering is one of the smaller Canadian professional societies. Membership has varied over the years but currently stands at about 500 nationally, with about 80 members in Manitoba.

In 1986, CSAE became a affiliate of the American Society of Agricultural Engineers. Since affiliation, membership has increased and some of the duplication of effort which had previously existed has been eliminated. As an affiliate society, CSAE has a member on the Board of Directors of ASAE. In addition, Canadians who wish to join ASAE must also join CSAE, so attractions of the larger organizations now serve to increase Canadian participation at home.

Given the number of people in CSAE, national activities have been a prime focus. Manitobans have been active with three past Presidents and the current President among the local membership. We have hosted the CSAE Annual Meeting, in conjunction with the Agricultural Institute of Canada, three times since 1958 and the 1979 joint CSAE/ASAE Annual Meeting (which attracted 2000 participants from 23 countries).

Regional activity is not as varied as that of the larger societies, but it does occur. Manitobans have opportunities for involvement with both the Manitoba Region of CSAE and the North Central Region of ASAE (which includes Manitoba, Saskatchewan, North Dakota, South Dakota and Minnesota). The North Central Region meeting is officially recognized as a joint CSAE/ASAE Regional event. Canadian members who present technical papers at this meeting can select either the ASAE Transactions or Canadian Agricultural Engineering, the CSAE Journal, for publication of their work. This meeting is hosted in Manitoba

every fifth year, most recently in Winnipeg in 1986. In addition, a Manitoba Region Evening is planned each winter at which local members gather to hear a featured speaker and discuss technical developments.

A student CSAE/ASAE club is active on the campus of the University of Manitoba. Regional meetings are a high priority for students. Student members have full voting rights in the ASAE Region so their involvement is more than a social endeavor. Students are encouraged to present papers in the regular technical sessions and Manitoba students have taken full advantage of this opportunity.

Membership in CSAE/ASAE is open to persons involved in the application of Engineering to the problems of Agriculture, both on and off farm. The society is small, but active. We invite you to come out and join us to see exactly what we are about. □

Editor Editor Editor

This publication needs an editor, as Kelly Hearson has resigned. Herein lies an opportunity to work with an enthusiastic committee, eat free lunches and get a tremendous feeling of accomplishment. If you are interested, please phone Bill Mackenzie (942-6481) and discuss the matter.