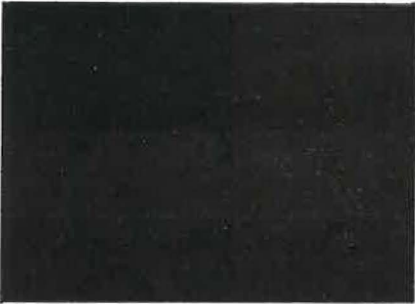
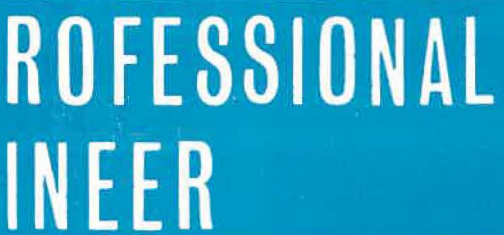




**THE
MANITOBA**

PROFESSIONAL
ENGINEER



**bulletin of the
association of
professional
engineers
of the
province of manitoba**

november, 1974



Published by the Association of Professional Engineers of the Province of Manitoba
710 - 177 Lombard Avenue, Winnipeg, Manitoba R3B 0W9

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WINNIPEG, MANITOBA, NOVEMBER, 1974

President's Message

By G. A. DE PAUW, P. Eng.

The most economical structure is a well-designed structure. But how does a client or developer know whether or not he is buying a well-designed building, bridge, power dam, et cetera? It is very false economy to cheat on engineering design. Good engineering design ensures that the equipment, or power plant, building or bridge, will stand the test of time. Adequate engineering from the start is not only a good and most beneficial part of the client's investment, it is also cheap insurance into the future. Yet nearly every client planning to build a facility starts off by asking the question, "How much will it cost me for engineering services?"

Today, we can read almost monthly of some kind of near failure, potential failure or disastrous failure of construction works where innocent victims lost their lives. The headlines taken from the Engineering News Record, McGraw-Hill's Construction Weekly, are given below as examples:

E.N.R. — January 24, 1974 — "1,488-ton bridge section slides off piers" — "At the time of the collapse, workmen had just finished removing a portion of the falsework under the section . . ."

E.N.R. — February 14, 1974 — "Corroding elevated highway closed, poor maintenance cited" — "Most of New York City's 40-year-old elevated West Side Highway is closed because of structural deficiencies discovered after a recent collapse."

E.N.R. — March 28, 1974 — "\$5-million road overrun charged to errors" — "The Illinois State Toll Highway Authority is the target of charges claiming unsafe bridge alignment, suspect contracting procedures and management blunders that caused a \$5-million cost overrun on its \$135-million East-West Tollway extension."

E.N.R. — April 11, 1974 — "Collapse brings jail sentences for two" — "Two structural engineers have been given jail sentences after a court found them responsible for the collapse of an exposition hall three years ago in Brazil's Belo Horizonte . . ."

- Failure of the structure, under construction at the time, killed 67 workers."
- E.N.R. — May 9, 1974 — "Bridge falsework collapse kills nine" during the construction of a West German Autobahn Bridge.
- E.N.R. — June 20, 1974 — "Demolition of old hotels discloses severely deteriorated rebars, concrete" in a number of Miami area hotels.
- E.N.R. — June 20, 1974 — "Falsework failure blamed for bridge collapse" over the Meuse River in Belgium.
- E.N.R. — August 1, 1974 — "Construction set to resume on partially collapsed tower" on a Virginia apartment building that partially collapsed last year killing 14 workers.
- E.N.R. — August 1, 1974 — "Caisson flaws slow a building project" where repair of foundation caissons will delay and add to the cost of a 35-storey building for Educational Facilities Centre now under way in Chicago.
- E.N.R. — September 5, 1974 — "Engineer found guilty in Rio viaduct collapse in '71" — "The engineer in charge of design and construction of a 1.5-mile concrete viaduct in Rio de Janeiro that collapsed during construction killing 29 persons and injuring 18 in November, 1971 has been given a suspended jail sentence of one year, four months and ten days."

The examples cited are only the more spectacular occurrences. There are many minor but not unimportant incidences which do not make headlines but are serious nonetheless and we in Manitoba are not free of incidences. The failure of the Powerview and Darlingford Arenas, the collapse of a short span culvert, the loss of a bridge due to overloading and floods, a church roof collapsing in North Kildonan, and a fire due to overheating of mechanical and electrical equipment in a school, are examples which should lead Engineers in Manitoba to take note. We have been

rather fortunate in Manitoba that some of the buildings were vacant at the time of failure. We should thank God for these blessings. It is serious and tragic when people lose their lives. The public has a right to feel secure about the buildings and structures which they occupy or use. No one can see the stress in the material with the naked eye, even if it is very near to the breaking point, by superficial inspection or even with sophisticated equipment such as a sonic-sensor. Only good design in the first instance, executed by ethical and competent Engineers, will provide this kind of confidence. Manitobans have been fortunate in the past. However, there is ever-growing pressure on Engineers today to allow something which is less than, in their knowledgeable opinion, safely adequate, while, at the same time, the Engineer is becoming more vulnerable with respect to professional liability.

The majority of engineering works are not going to fail dramatically and many facilities may be grossly overdesigned, causing unnecessary expense to the developer in the first construction costs and/or future maintenance and operating costs. An example could be heating plants, overdesigned to provide unnecessary air conditioning and thus be wasteful of heating fuel. Energy conservation demands that better design approaches be utilized. Consequently, an Engineer has a serious obligation to be knowledgeable about new insulating products and how to use them effectively, especially in a country like Canada where most of the population lives on the fringes of a year-round frost condition.

Every day you can read about another group of people, associated for their sole benefit, referring to their "profession". This is doing violence to the word and is extremely confusing to the public. Firstly, no person is a professional in the true sense of the term when applied to learned societies, unless he or she is a member of an association of persons legally constituted by the elected representatives of the Legislature, which association has been given the duty of self-disciplining its members for the protection of the public.

The most competent and learned are not necessarily professional. An individual, because of his knowledge and acquired skills, can be a very dangerous individual if allowed to practise without having proven his willingness to be scrutinized by his peers to ensure compliance with a "Code of Ethics". Therefore, we have a very serious obligation, if we deserve to be recognized as a profession, to:

1. Carefully screen the applicants who would be registered or be given a licence to practise,
2. Discipline members who are not providing a high degree of quality work based on the most up-to-date information available, in a responsible manner,
3. Restrain those who are not registered from practising until they have qualified.
4. Maintain a high standard for admission by encouraging the most capable students into the profession and only registering those who demonstrate their preparedness to make sacrifices and meet the challenges of tomorrow.

Managing Director's Report

This rather long 'summary' is intended to identify or clarify some of the Association activities or policies not normally covered by Council and Committee reports. At the July 1974 Council meeting our membership passed the 2,000 mark which represents a record *net* gain of 82 members in the first three quarters of the fiscal year. This net gain is most encouraging in view of the fact that non-residents of Manitoba are no longer permitted to register. Non-resident licences have increased from 38 for the year ending October, 1973 to 64 for the year ending October, 1974. Non-resident members are normally not permitted to renew their membership once it has lapsed for any reason and must apply for a licence if they wish to practise engineering in Manitoba. As a result, the percentage of non-resident members has dropped to a more acceptable figure, under 20%. Engineers-in-Training, (Engineering Graduates) on the rolls have increased to approximately 200 and our new E.I.T.'s and members are much better informed as to the objects and activities of the Association than were most of their predecessors. This is a direct result of the entry examination in "Professional Practice" which all new members and E.I.T.'s are required to pass. Additional contact with the Engineering Faculty members and undergraduates at the University of Manitoba has also helped as well as the mentor program which provides the E.I.T. with the advice and career counselling and scrutiny of one or more registered members as required.

Since November, 1973, 80 examinations have been returned by E.I.T. applicants and 144 by applicants for membership. The average marks were 91.1% and 90% respectively. 14 E.I.T.'s scored between 80 to 86%, 51 between 87 to 93%, and 15 between 94 to 100%. 24 applicants for membership scored between 80 to 86%, 82 between 87 to 93% and 38 between 94 to 100%.

The examination is conducted on an open book basis with no time limit. There have been three failures to date where counselling has been required. Mr. Wolfgang Kurt Herwig, a 1972 University of Manitoba, Mechanical Engineering graduate received the first 100% score on his recently marked paper.

Many questions still arise with respect to the registration policies of the Association. Council is unanimous in its opinion that entry standards must remain at a high level and that any changes would be directed towards a higher standard. The question of whether or not long years of demonstrated competence and peer recognition should be equated to *minor* academic deficiencies in an academic course to permit registration, has long been debated. I personally believe that the equation is valid despite the difficulty in making such an assessment. Our basic registration standard requires that an applicant be in possession of an accredited engineering degree from a university or institution accredited by the Association. The applicant must also have accumulated a minimum of two years of experience deemed applicable by Council and one year of this experience must have been obtained in North America. The experience is to be obtained after receipt of the accrediting degree which in some cases may be a M.Sc. or Ph.D. in engineering. This basic standard applies equally to Canadian graduates and to graduates arriving from the U.S.A. or overseas. Applications for registration are accepted only from residents of Manitoba. An applicant with both an accredited B.Sc. degree and a M.Sc. degree is given experience credit for only the confirmed time spent on thesis work on the M.Sc. program.

Engineers in Training not working under the direct supervision of a Professional Engineer require Professional Engineer Mentors who are assigned by the Association.

Engineers with degrees from E.C.P.D. (Engineer's Council For Professional Development) accredited universities in the U.S.A., must have the content of their engineering course checked by a sub-committee of the Board of Examiners unless the individual has been recognized by one of the U.S. State Boards or has written the State Board Examinations. A similar policy applies to engineering graduates from accredited British Universities unless the applicant has an honours degree or has obtained a pass in an honours degree program.

The Accreditation Board of Canadian Council has provided valuable guidelines in recommending engineering courses from Canadian and Overseas Universities. In addition, Canadian Council has introduced through our Immigration Offices overseas, a standard form which is sent by the Immigration agencies to the Association office in the Province to which an applicant may wish to immigrate. Forms received in this office are completed and returned overseas and provide the potential immigrant with an *opinion only* as to whether his qualifications will be acceptable to the Association or if examinations will probably be required. This procedure has eliminated the need to reply to hundreds of individual inquiries, which was the case several years ago.

A uniform examination syllabus has been provided by C.C.P.E. and approved by all Associations and the Order of Engineers in Quebec. This syllabus is used as a standard against which to compare the academic qualifications of those applicants not possessing an accredited engineering degree. These applicants do not submit an application for registration to the Association but are requested to submit an Application for Assessment with supporting documentation to the A.P.E.M. Board of Examiners. The Board then decides if examinations are required and if so, specifies the examinations to be written from the National Syllabus. Only after the Board rules that an applicant is academically qualified, does the applicant apply for registration at which time his or her engineering experience and references are reviewed.

Assessments are accepted from potential applicants from any country but examinations may only be written after the applicant takes up residence in Manitoba. In rare cases, applicants with qualifications unusually difficult to evaluate are referred to the Admissions Review Board, which has the authority to weigh expe-

rience, performance and character as well as academic qualifications.

With the object of improving services to members, Council has embarked on a comprehensive Manitoba engineering position classification and salary survey which will result in the publishing of recommended minimum salaries for members. Existing surveys of actual salaries have long been severely criticized as having a depressing effect on engineering salaries. They do, however, provide useful information and the following few paragraphs are intended to answer many of the questions that arise.

Canadian Professional Engineers Membership Salary Survey

This survey is conducted by the A.P.E.O. on behalf of all Canadian Provincial and Territorial Associations and the Order of Quebec. The brief questionnaire is prepared in bulk by the Ontario Association and mailed by each Association and the Order to its members in December of each year. The last questionnaire attempted to determine the members' annual rate of remuneration as of December 31, the year in which the members Bachelors Degree was obtained, the employment status of the member and the number of years the member has been with his present employer. There were 27,923 usable replies to the December 1, 1973 survey. Results are normally published in the March issue of the Engineering Digest. Most Associations publish excerpts in their own Journal, usually Provincial statistics with the national average. The A.P.E.M. did not publish or circulate the data from the last survey. Over the last four years the average cost per year to the A.P.E.M. has been \$296.00 including material, computer analysis and return postage.

Joint Industrial Salary Survey

Until this year, the survey was conducted through the co-operation of employers in Alberta and Ontario. The Alberta Association is not participating this year and is undertaking a similar survey within its own borders. Quebec is conducting an almost identical survey but adding a fringe benefits study and changing the timing of the study. The Maritime Provinces although not participating as yet, are very interested and use the results of the study to establish and publish minimum recommended salary levels. The report is compiled by the staff of the A.P.E.O. and is audited by the Advisory Committee on Salaries. Company questionnaires are prepared by the A.P.E.O. and sent out by participating associations to major em-

ployers in the particular province. Returns go directly to the A.P.E.O. for Computer Analysis. Companies are requested to report the salaries paid to all engineers identified by one of the 19 recognized job descriptions, in turn, converted to the relevant level of responsibility, or one of the six levels of responsibility.

The 1973 survey reflects actual salaries paid by 178 companies to 12,912 engineers in Alberta and Ontario by level of responsibility and year of graduation as of July 1, 1973. To date all Association offices are advised of the results of the survey but only the Associations participating at the time, share the cost. The A.P.E.M. published a booklet for its members based on the results of the 1973 survey at a cost of \$700.00. Results of the July 1, 1974 survey have just been received by this Association and there has been no decision to publish or not to publish. The 1974 survey being conducted solely by the A.P.E.O. has received data from 149 companies employing approximately 9,667 engineers. (Approximately one third of the engineers in Ontario.) If the A.P.E.M. decides to participate, our direct cost would be relatively low. Our related costs would be much greater. Considerable staff time would be required to establish contact with Manitoba companies, explain the program and reach agreement as to participation and form completion. Circulation of the standard comprehensive questionnaire by the A.P.E.M. to the company would follow. Data would finally be returned as part of the joint survey from the A.P.E.O. and the A.P.E.M. Council could then decide to print and circulate the information or use the data received for other purposes.

The supply and demand for engineers will always be a factor in the quest for salaries which reflect the comparative worth of the contributions of engineers to the economy. At the October 2, 1974 Supply and Demand Symposium at Thunder Bay it was reported that one of the unofficial conclusions was to the effect that there is no shortage of engineers, only a shortage of those willing to practise engineering at the current rates of pay. The question remains as to who else is capable of administering and supervising the advanced technology of today if engineers relinquish this role.

This year a particular effort has been made to communicate with members not residing in Winnipeg. President De Pauw accompanied by Messrs. Grimes, and

Algeo have attended meetings arranged by the members at Thompson, Lynn Lake, The Pas, Flin Flon, Brandon and Pinawa. Unless those visited were merely being polite, the response to the meetings was encouraging and excellent communication was established. Our attempts to spend money on such trips always appear to be nullified by the applications for registration which are sent in following a visit to a particular area. It may be concluded that more field work is necessary.

On May 9, 1974, the Consulting Engineers Committee organized one of the best attended Association meetings to inform members on the subject of Professional Liability or "the unseen threat which lurks behind each slide rule". Members may have left the meeting with the impression that liability insurance was not available to the individual member. Such coverage is available through C.C.P.E. and the National Program Administrator for Insurance. The policy is designed to cover gaps in company coverage and also to give a form of security to engineers working in organizations with no insurance at all. The bad news is that the incidence of an individual engineer being sued will increase markedly if it is known that the engineer is backed by the funds of an insurance policy.

While the routine work of registration, education, and enforcement goes on, Council continues to deal with the pressures of change from within and without, e.g. The attitude of government toward the professions in general and the Engineering Profession Act in particular; the need to assist and protect the members as well as the public; the need to oppose erosion of educational standards and of the work ethic; and the necessity to oppose, in the public forum, unreasonable or impractical demands of the non-technical majority.

Permit me to express thanks to the other members of your permanent staff, Loreen Dunklee, Maggie Brownie, and Monica Todd. They were required to take on added responsibilities together with an additional work load and have performed admirably.

Respectfully submitted,

T. W. ALGEO, P. Eng.,

Managing Director and Registrar.

ADMISSIONS REVIEW BOARD

The Admissions Review Board meets with applicants who are found by the Board of Examiners to be academically deficient in one or more subjects but whose experience implies engineering competence. The Board is constituted differently for each review with practising and academic engineers in the field claimed by the applicant. The applicant is judged on the basis of his academic qualifications, experience and professional qualities. A recommendation is made to Council to either accept the applicant for registration, to vary the Board of Examiners findings or to advise the applicant to complete his academic training. Council exercises its judgment and accepts or varies the recommendation at it deems proper.

Two applicants were interviewed by the Admissions Review Board during the year. Both were able to demonstrate their acceptability to the Board or Council. One applicant, Mr. Leonard Middleton, has been duly registered. The second application is in process at the time of writing this report.

Respectfully submitted,

R. E. SCOUTEN, P.Eng.

Chairman

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CONSULTING ENGINEERS' COMMITTEE

The Committee continued the work started in 1973 in modifying the Standard Form of Agreement between Client and Professional Engineer in Consulting Practice. After several committee meetings with the Association's Solicitor, the Form of Agreement was submitted to Council for approval. The finally accepted Agreement was the result of many serious discussions and compromising efforts of both Council and Committee Members.

A special meeting was held with L. A. Morrow, P.Eng., Director of the Department of Labour for the Province of Manitoba and J. S. Hicks, P.Eng., Supervisor of Building Inspection for the City of Winnipeg to review the use of Engineering Seals on drawings and plans.

The Committee with the assistance of the Employee Engineers and Legislation Committees sponsored an evening seminar

on Professional Liability. Panel members included Kerr Twaddle, Q.C. (Barrister), Fred Maltman, C.L.A. (Insurance Adjuster), Mike Dickinson (Insurance Broker) and Doug Grimes, P.Eng. Over 150 members of the Association attended making it one of the most successful meetings in recent years.

A review was made of the 1971 rates published for Consulting Engineering Services. This review resulted in a recommendation to Council that rates be increased. The recommended rates were approved on September 18, 1974 at a Special Meeting of the Association. The questions and items raised during discussion at the end of the meeting will give the incoming committee a few challenging projects, such as consideration of abolishing or discouraging percentage fees.

The Province of Manitoba Department of Education requested a meeting between their Building Committee and a representative group of Professional Engineers. This request was forwarded by Council to the Committee for appropriate action.

A number of meetings were held with members of the Committee, representatives of the Manitoba Architects and Province of Manitoba Department of Public Works to review Professional Liability Insurance as it may apply to Public Works projects. This assignment from Council has not been completed.

As Chairman of the Consulting Engineer's Committee, I would like to take this opportunity to extend my appreciation to the hardworking committee members including George Currie, Lindsay Ingram, Bill Mitchell, Bev Fisher, Bill Hanaschak, Ervin Weiszmann, Sandy Penman, Walter Saltzberg, Bob Morrison, Jim Hunter, Jenoe Babletak, Barton Rossen and last but not least, the Council's watchdog Andy Gilliland. I would be remiss if the same appreciation is not given to Terry Algeo for his continuing guidance and to Abe Anhang, the Association's Solicitor, for his extreme patience. Finally to Council, who never did ratify the Committee Membership (primarily because the Committee was too busy with its assignments to take the time to discuss the matter), on behalf of the Consulting Engineer's Committee, our thanks for the opportunity to serve you.

Respectfully submitted,

J. P. SINCLAIR, P.Eng.

Chairman

Consulting Engineers' Committee

CAREER GUIDANCE AND COUNSELLING COMMITTEE

During the past two years there has been a noticeable decline in the number of schools and organizations requesting assistance from the Association. At the same time there has also been an apparent decline in interest on the part of the Guidance Counsellors in the Province, and most lines of communication with these people have now terminated.

Nevertheless the Committee has had a number of tasks to deal with although on a lower key than in the formative years of the group, and our activities have been more related to holding a "watching brief" than actively pursuing the matter of guidance and counselling. Each year a number of schools are still requesting information and speakers on "Engineering as a Career", but the general level of interest has definitely fallen. We have been using the original material put out by CCPE but more recently have added the use of the film produced by the APEO. This is more up-to-date and eye catching to audiences and the reaction to it in most cases has been very good. During the last two years the committee has also completed work on a set of slides and short commentary related to engineering opportunities in Manitoba, and in the near future will be reproducing several sets of these for use around the Province.

During the past two years the Committee has basically consisted of four engineers and three non-engineering members from the Community, and at the present time we are looking for an additional two engineering members to replace people that have moved elsewhere. The 1975 program for the Committee is to consist basically of working on a new brochure covering engineering careers for use in the schools and by other interested parties, and in continuing our information service by means of films, speakers, etc. Any members interested in serving on this committee which meets at the call of the "chair" on a regular basis depending on business will be most welcome.

Respectfully submitted,

A. F. ESHMADE, P. Eng.

Chairman

COMMITTEE ON SAFETY IN ENGINEERING PRACTICE

During the past year, the Committee has investigated a number of situations of concern to the Association.

A report was submitted to Council regarding the collapse of the Powerview Arena, resulting in a public statement being made by the Association, and resulting in a meeting with the Assistant Deputy Minister of Labor to discuss the matter of Public Safety in rural areas.

A report from the Committee to Council regarding a fire in a Northern School is being considered by Council for further action.

A number of matters are currently under consideration by the Committee including structural failures at: Red River Community College, Pembina Dodge Chrysler Addition, and a School Building at Roblin.

Meetings have been held with: The Manitoba Association of Architects, The Workmen's Compensation Board, and the Practice and Ethics Committee to discuss matters of mutual interest.

Since one of the objectives of the Safety Committee is to institute preventive measures, the Committee plans to publish commentary on matters before it in liaison with the Bulletin Committee. It is hoped that the lessons to be learned from investigation of incidents can in this way be passed on to other members of our Association.

Committee members are:

B. E. Akins, P. Eng., R. H. Banks, P. Eng., S. J. Borgford, P. Eng., T. A. Crosier, P. Eng., G. W. Simonson, P. Eng., E. I. Lexier, P. Eng., G. A. Morris, P. Eng., D. L. T. Oakes, P. Eng., L. A. O'Morrow, P. Eng., R. A. Stewart, P. Eng.

Respectfully submitted,
W. R. McQUADE, P. Eng.
Chairman

BRANDON AREA COMMITTEE

The Brandon area engineers and technicians held two meetings during the 1973-1974 season.

The first meeting took place on November 28th at the Twin Pines Hotel, Brandon. The guest speaker was Mr. Steve

Hegion of Hegion and Associates of Virden, Manitoba. Mr. Hegion spoke on "Availability and Supply of Fossil Fuel Resources". Mr. Hegion's talk was especially interesting in view of the current energy crisis. Mr. Hegion is directly involved in oil exploration and production in Manitoba and thus was able to give firsthand information regarding those activities.

The second meeting took place on April the 18th, again at the Twin Pines Hotel. Our president, George De Pauw spoke on "Communications in Engineering". Following Mr. De Pauw's talk informal discussions were held covering such topics as: the engineers role in society, legal responsibilities in engineering, use of the seal, engineering salaries, collective bargaining. It was a most interesting and informative evening.

Respectfully submitted,
P. R. WARKENTIN; P. Eng.
Chairman
Brandon Area Committee



LEGISLATION COMMITTEE

The members for 1974 were A. D. Myska, D. L. T. Oakes, A. W. Gilliland, G. R. Smith, D. A. Crocker, G. E. McLure, R. A. Harasyn, J. R. Spronken, H. O. Wilson, E. E. Lach, and R. W. Haywood.

The committee held eight meetings and, in addition, members worked on special sub-committees.

The most time consuming project of the year was the preparation of recommendations to council on changes to the by-laws. The principles involved in by-law changes and the detailed wording of proposed changes required much freely given effort on the part of many committee members.

The committee also contributed to the presentation that was made to the Government of Manitoba in an effort to remove the use of the word engineer from Bill 33, The Power Engineer Act.

A sub-committee prepared recommendations for council on the Home-Buyer Protection working paper as prepared by the Law Reform Commission.

A topic that occupied considerable time, but was found too elusive to be concluded successfully, was that of a new definition of engineering with a view to agreement

among all CCPE members.

The most important topic of the year in the eyes of the committee was that of a self interest group along the lines of those of the other professions. The Legislation and Employee Engineers worked together on this topic to a large extent. In view of changing labour legislation and conditions, the Legislation Committee made a continued effort to have the APEM support the formation of a separate self interest group. At a recent council meeting the proposal was put to council and rejected.

Respectfully submitted,
R. W. HAYWOOD, P. Eng.,
Chairman.



SOCIAL COMMITTEE

The Social Committee met on seven occasions during January and February of this year to plan the Association's annual dinner and dance. The 1974 affair was held at the International Inn on March 9th, and was called the Red River Ball to commemorate Winnipeg's Centennial. Featured at the social were several antique autos, as well as a collection of posters which depicted the City's history (the results of a children's art contest sponsored by the Committee). From all reports, the Red River Ball proved to be an enjoyable evening, and the Social Committee was gratified by an attendance of almost 350 persons — up 30% over 1973 and the highest in eleven years.

The International Inn will again be the site for the 1975 dinner and dance, with the date being set for Saturday, March 8th.

Members of the Social Committee for 1974 included Bryan Johnston, Chairman; Dave Duncan, Bryan Norrie, Ed Pentland, Dave Sexton, Jim Linton, Larry Morison, George Pratt, Rod McRae, Bill Sullivan, Wayne Stewart and Barry Rowley.

Respectfully submitted,
B. K. JOHNSTON, P. Eng.
Chairman, Social Committee



PUBLIC RELATIONS COMMITTEE

Public relations work carried out by the committee this year consisted mainly of contact and use of the various news media

throughout the city.

We were able to arrange and organize a T.V. appearance on Channel 9 for members of the executive of the A.P.E.M. A panel consisting of George De Pauw, Terry Algeo and Tom Weber appeared on a show called "Winnipeg Talks" operated by Mr. Sam Shapiro. The theme of the show centred around the Association, who and what it is. Members of the Association were advised that the panel would appear on Channel 9 through ads placed in the local papers. It was hoped in this way that the members of the Association would learn more of the work being done on their behalf.

The committee worked along with the student liaison committee in trying to place prospective engineering students from Vincent Massey Collegiate in Fort Garry. The program consisted of placing interested students in offices where they could observe the many varied types of work carried out by Engineers, which would, hopefully encourage them to enroll in Engineering at the University.

Following the great deal of publicity given to the flood conditions, etc., that occurred at the various points throughout Manitoba in the spring, the committee organized a press conference. The plan was to advise the public through the press, T.V., and radio, that Manitoba Engineers had been and continue to be very involved in the flood control planning, design and construction. The panel of experts consisting of George De Pauw, Bill Newton and Bill Finnbogason met the Press, Radio and T.V. representatives at a press conference held on Tuesday, May 14, 1974. The resulting coverage was very gratifying and indicates that the Association can be assured of getting reasonable publicity on topics of current public interest.

The results obtained by the Committee over the past year have been limited but they would indicate that the best form of public relations that can be achieved by the Association is accomplished by good performance of the members on matters of current public interest.

The committee this year consisted of the following, Bryan Johnston, Walter Wolfe, Bill Mann, Bill Finnbogason and Bryan Norrie. The Committee would like to thank Charlie Bouskill for his support as the Council representative and Mrs. Loreen Dunklee for her untiring efforts in keeping the committee moving.

Respectfully submitted,
H. B. McLENAGHAN, P. Eng.
Chairman.

BOARD OF EXAMINERS

Serving on the Board during the 1974 term were:

K. M. Adam, D. T. Anderson, J. R. Cahoon, J. B. Campbell, E. A. Bridges, R. J. Karras, G. E. Laliberte, G. A. Morris, M. P. Musick, K. R. Ouelette, A. B. Thornton-Trump, J. Tinkler, J. D. Wiebe. In addition, W. C. Brisbin acted in a consulting capacity to the Board.

The Board convened for three meetings during the year to consider 31 applications for assessment of academic credentials. This contrasted with 37 and 16 for the previous years of 1973 and 1972 respectively. Eight applicants were judged in possession of sufficient academic credentials and were recommended for registration. Two applicants were assessed a thesis to satisfy academic requirements for registration. Four were required to write four or fewer examinations and eleven were assessed five or more examinations in fulfillment of academic standing. Of the remaining six applicants, two were required to write three or fewer examinations to demonstrate their engineering academic competence as some deficiencies in their credentials were apparent. The final four applicants were prescribed four or fewer qualifying examinations to demonstrate proficiency in engineering fundamentals and upon completion of these exams will be reviewed and assessed in accordance with their performance.

In addition to the foregoing, one applicant, senior in years and possessing an impressive employment record but deficient in academics, was referred to the Admissions Review Board for judgment. Three applications for registration which would not normally be reviewed by the Board were examined on Council's behalf and appropriate recommendations were rendered. Three applicants who had been assessed in previous years submitted appeals and upon presentation of sufficient documentation to establish proof of academic achievement, had their examination requirements reduced. Six individuals sat for eight papers during the April, 1974 examination period. Five papers received a passing grade and, significantly, the candidate who wrote three examinations passed all.

On matters of policy, the Board, after considerable study and debate, agreed to recommend for registration, applicants who are graduates of American Universities accredited by the E.C.P.D. (Engineers Council for Professional Develop-

ment) and who are registered by one of the U.S. State Registration Boards. A guideline for the uniform and equitable treatment of applicants holding Corporate Membership in certain U.K. Institutions was formed. Nominees were selected from the Civil and Mechanical Disciplines to serve on the C.C.P.E. Accreditation Board for the purpose of establishing a uniform national syllabus in the respective disciplines.

The Board gratefully acknowledges the assistance of the Registrar, T. W. Algeo for his able insights in difficult assessment matters, Miss M. Brownie, for her secretarial participation during the Board's meeting and very helpful pursuits of details required for the proper completion of tasks.

I personally extend my thanks and gratitude to all those mentioned, to the dedicated members serving on the Board, and to the Staff Members for their co-operation, persistence and patience in dealing with their tasks.

Respectfully submitted,
M. P. MUSICK, P. Eng.,
Chairman.



SPORTS COMMITTEE

Two events were run off by the Sports Committee in 1974. These were:—

1. 1974 APEM Bonspiel was held on January 17th. 28 rinks participated and the affair was an unqualified success.
2. The 1974 APEM Golf Tournament was held on June 20th. 82 members and guests participated and a good time was had by all.

In 1974 we departed from the previous golf tournament format and we held only one golf tournament. In previous years, it was the custom to have a spring and fall tournament. Waning interest and participation in the fall tournament was the reason for this action on our part. The old format could be reinstated in 1975, but only if the Sports Committee has some strong indications that the golfing membership at large wish to have a fall tournament, and a reasonable number would participate.

Due to generous response to our requests for prizes and due to astute financial management by the Sports Committee, no deficits were incurred during 1974.

Sports Committee members were, Bob Jeske, Bob Gottfred, Alex Brown, Carl Kummen, Bill Saunders, Ron Gordon and Ted Parent. My thanks to these people for helping to make the Sports Committee affairs operate like a well-oiled machine (no pun intended). Thanks also to Boris Hryhoreczuk for producing our notices so capably.

Behind the scenes assistance from Loreen Dunklee and Maggie Brownie helped us immeasurably in making our sports events enjoyable and successful.

The above report is submitted for your consideration.

Respectfully submitted,
W. B. MACKENZIE, P. Eng.
Chairman



UNIVERSITY LIAISON COMMITTEE

Several points of contact with the University of Manitoba Faculty of Engineering have been achieved. In response to invitations, the Association made submissions to committees to select a new dean and to search for a new civil department head.

Two meetings have been held with the Dean and department heads.

The following are Association delegates to curriculum committees:

- Electrical: W. Allison
- Mechanical: R. J. Karras and D. B. Sigurdson
- Civil: P. A. R. Lowe
- Agricultural: O. H. Friesen

Seventy-five per cent of the faculty are Association members and they are nearly all active on Association committees.

The University Liaison Committee members are:

- R. M. Fraser, W. R. Newton, A. B. Thornton Trump, D. B. Sigurdson, R. J. Karras, R. H. Kury.

Thanks to Mrs. Dunklee, our permanent staff member, who does the work and to Allan Moffatt who has the second order function of Council liaison to the University Liaison Committee.

Respectfully submitted,
J. W. J. LEWIS, P. Eng.
Chairman

EMPLOYEE ENGINEERS COMMITTEE

The committee started this year's activities with a three sub-committee structure. This, together with the services of the Director of Career Development was going to be the nucleus for providing increased member services. The Member Services Sub-committee was going to study and recommend to the Council of the A.P.E.M. new services required by the employee engineers. The Salary Survey Sub-committee was going to do research on salaries and fringe benefits. It was also going to provide capability to assess various levels of engineering responsibility and to recommend a set of salary schedules to be issued to the A.P.E.M. membership on an annual basis. Finally, the Voluntary Group Sub-committee was going to provide a forum for the various groups of engineers to exchange views on various issues of interest. It was also envisaged that this sub-committee could form the basis of a Self Interest Organization or a Council of Engineers if such was needed. This structure, as you may recall, was part of an action plan presented in 1973 and approved by the Council of the A.P.E.M.

During the last year, the committee lost the services of the Director of Career Development. Also the sub-committees had difficulty in finding members who were prepared to make a longer term commitment to carry out the various studies. The result was that the committee considered and passed a motion to abandon the sub-committee structure. In their place the committee collaborated on a joint study with the Legislation Committee to set up a Manitoba Council of Professional Engineers. This new body which could eventually become separate from A.P.E.M. was intended to provide the various member services as well as the leadership in the area of collective action by registered engineers. A proposal was submitted to the Council for consideration where it failed to receive the necessary support. In parallel, the committee has conducted studies in the area of salaries, fringe benefits, and job evaluation systems. The intent was to recommend salary schedules for engineers. The conclusion of the study was that while such a task was feasible, it would be difficult to carry out with only volunteer help. As a result it was recommended to the Council that a management consultant be retained preferably jointly with the A.P.E.S. to assist the committee in this area. After examining a number of alternatives, Stevenson and Kellogg was recommended. We are happy

to report that the project received top priority from the Council. Activity in this area has been turned over to a special committee which is now working towards an objective of recommending 1975 salaries for engineers.

Respectfully submitted,
N. FEDORCHUK, P. Eng.
Chairman

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PRACTICE AND ETHICS COMMITTEE

The members of the Committee for 1974 were:

L. A. Buhr, D. A. J. Ennis, F. M. Fowler,
C. R. McIntyre, G. A. Morris, F. Penner,
W. H. Finnbogason, Vice Chairman, T.
E. Weber, Chairman.

During the year the Committee held seven meetings as a Committee of the whole. As well a number of sub-committee meetings were convened to deal with specific aspects of matters under investigation.

During the year reports of the Committee, following consideration by Council, were reviewed and a release prepared for the bulletin raising the pertinent section of the By-Laws applicable in the matter.

The facts relative to the Powerview Arena failure earlier this year have been given serious examination by the Committee several avenues to rectify the type of problem contributing to this failure are being actively reviewed.

Under the existing Act and By-Laws registration in the Association is not by discipline, therefore, the Committee again brought to the attention of the Council and the membership the strong need for members to ensure that the member only seal drawings from his/her hand and further that the Code of Ethics requires that members use the seal only on work that his/her training, ability, and experience rendered him/her professionally competent to undertake.

The members are reminded that the Practice and Ethics Committee is available for consultation on problems relating to the practice of engineering and it is the desire of the Committee to assist the members of the Association in enabling them in providing professional services of a high standard in accordance with the Code of Ethics.

Respectfully submitted,
T. E. WEBER, P. Eng.,
Chairman.

BULLETIN COMMITTEE

The six issues of your Bulletin have taken us through a fair gamut of reaction. We've been threatened with law suits, discussed both sides of many questions with Council, and we even received some plaudits from our readers, including our sister associations in B.C. and New Brunswick. To help ease the pain of metric conversion we compiled "MEtrics and You. Here's How!" in the last issue.

We welcome applications to join our committee. Members learn much about Council and the problems of our Association - professionally and in sport. You'll learn how helpful Mrs. Loreen Dunklee is in helping to meet our deadlines and in many other ways.

Yes, we've had a good year of wine, beefs and bouquets and capital issues.

My personal thanks for the Committee's support throughout the year.

Respectfully submitted,

E. A. SPEERS, P. Eng.

Editor

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LIFE MEMBERSHIP HONORIS CAUSA

By-law 31 on Grants reads as follows:

"The Council may pay annually, from the interest on invested funds, for the cost of Certificates of Life Membership and for the aggregate of the annual fees of all members still living to whom such certificates have been granted. Life Membership, Honoris Causa, may be granted by a unanimous decision of Council to a member who has in the opinion of Council rendered meritorious service to the Association, who is no longer practising on a full-time basis as a Professional Engineer, and who has preferably been continuously a member for not less than 35 years and has attained the age of 65."

This award is intended not merely to recognize the length of membership and the regular payment of fees, but primarily to honor those dedicated members who have rendered praiseworthy service to the Association and to encourage their continued interest and association with the Engineering fraternity after they have retired from their practice.

The Awards Committee are most anxious that all deserving members receive this honor and recognition and earnestly request all members to review the names of retired members with whose service they are familiar. Recommendations are welcomed by the Committee at any time. Honorary Life Memberships have been granted to date to the following: M. A. Lyons, G. R. Pratt, C. H. Attwood, P. O. D. Burke-Gaffney, W. M. Scott, E. W. M. James, E. V. Caton, E. P. Fetherstonhaugh, W. Youngman, C. S. Landon, J. W. Sanger, J. L. Charles, A. W. Fosness, C. V. Antenbring, T. E. Storey, B. Chappell, E. S. Magill, J. B. Striowski.

-Awards Committee

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FEE SCHEDULE CHANGES

At a special meeting of the Association held on September 18, 1974, the following changes to the existing Consulting Engineers' Fee Schedules, were approved and are effective as of that date.

Page 7 of the Schedule of Fees (Consulting Professional Engineering Services).

In the existing Section 2 under Minimum Rates in Scale A, change the hourly rates for Principals and Executives on normal assignment from \$27.00* per hour to \$40.00* per hour.

Delete existing Section 3 under Minimum Rates in Scale A referring to hourly rates for Senior Engineers including the alternative which refers to Item 4.

In existing Section 4, change the \$2000.00 figures to \$3000.00.

Re-number sections and references to sections accordingly.

Page 11 of the Schedule of Fees (Consulting Professional Engineering Services).

Under "calculation of fee", Item 1, change the rates for Principals and Executives from \$22.00* per hour to \$35.00* per hour.

In the second last paragraph, delete the words "during normal working hours".

Page 6 of the Schedule of Fees (Consulting Professional Engineering Services to Architects).

Under Scale A - Time Basis, change rates for Principals and Executive Engineers from \$27.00* an hour to \$40.00* an hour.

Delete reference to, and hourly rate for, senior engineers.

Change the wording following the existing rate for Senior Engineers to: "Time scale charges for personnel other than the above should be based on payroll costs plus 150% to cover overhead and profit".

*1971 rates. Change to the 1974 rates in all cases.

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S. Barkwell, L. A. Bateman, W. G. McKay, R. Hood, P. Shane and W. L. Wardrop have been made Fellows of the Engineering Institute of Canada.

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EARLY BIRD DRAW

Tickets for the annual meeting luncheon are now available at the Association office for \$3.00 per person. All members who purchase their luncheon tickets on or before November 27th, are eligible for the Early Bird Draw, a Saltzberg Special.

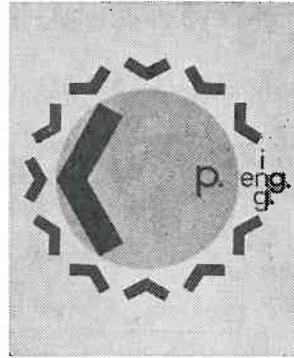
Tickets for the annual meeting dinner and dance are now available at the Association office for \$15.00 per couple. All members who purchase their dinner tickets, together with a luncheon ticket, on or before November 27th, are eligible for the Super Early Bird Draw, a Saltzberg Super Special. Members who purchase dinner tickets only on or before November 27th are eligible for a draw on a Saltzberg Special.

(Those members who attended the 1971 Annual Meeting will remember that a Saltzberg Special turned out to be larger than a Texas Mickey.)

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POST OFFICE BREAKS RECORD

We receive a constant stream of complaints from members about the slow delivery of our mailings — 5 weeks to Toronto, for instance. However, we are undoubtedly due for either another postal strike or an increase in rates or both because a new record has been set. A communication mailed by us to one of our members living in Fort Garry (Manitoba) last January, was delivered to him this October — a mere 9 months in transmission.



MODEL DEFINITION OF ENGINEERING APPROVED

At the 1974 CCPE Annual Meeting in Toronto on May 16th and 17th, CCPE Directors approved of model definitions of 'Professional Engineers' and 'Engineer' which the constituent associations of CCPE would attempt to follow in preparing revisions to their professional engineering acts within their provinces, with the understanding that the long-term objective should be the evolution of an acceptable and workable single set of definitions to be used throughout Canada.

As of May 15th, a new Engineers Act has been approved by the Legislature of New Brunswick, incorporating the modern definition of engineering as recommended by the CCPE Committee on Uniform Definition of Engineering, under the chairmanship of Mr. Eric Garland. The model definitions are recorded below:

CCPE — MODEL DEFINITIONS

Professional Engineer (Engineer)

The term 'professional engineer' and 'engineer', as used in this Act, shall mean a person who is a member or licensee of the Association of (province or territory, as applicable).

Engineering

Engineering is the application of scientific principles and knowledge to practical ends as in the investigation, design, construction or operation of works and systems for the benefit of man.

Without restricting the generality of the foregoing, the term 'practice of engineering', within the intent of this Act, shall mean the provision of services for another as an employee or by contract; and such services shall include consultation, investigation, reporting, evaluation, planning, design, responsible supervision, management,

research and development of engineering works and systems, and the teaching of advanced level engineering courses in any branch of engineering applicable to such works and systems; but does not include services by other technical personnel whose work is being carried out under the ultimate responsibility of a professional engineer (engineer).

Without restricting the generality of the foregoing, engineering works and systems shall include:

- (a) transportation systems and components related to air, water, land or outer space; movement of goods or people;
- (b) works related to the location, improvement, control and utilization of natural resources;
- (c) works and components of an electrical, mechanical, hydraulic, aeronautical, electronic, thermic, nuclear, metallurgical, geological or mining, character and others dependent on the utilization of the application of chemical or physical principles;
- (d) works related to the protection, control and improvement of the environment including those of pollution control, abatement and/or treatment;
- (e) the structural, electrical, mechanical, communications, transportation and other utility aspects of building components and systems;
- (f) structures and enclosures accessory to engineering works and intended to support and/or house them.

A person shall be construed to practise or offer to practise engineering within the meaning or intent of this Act, who practises any branch of the profession of engineering; or who by verbal claim, sign, advertisement, letterhead, card, or in any other way represents himself to be an engineer or through the use of some other title implies that he is an engineer or that he is registered under this Act; or who holds himself out as able to perform, or who does perform, any engineering services designated by the practitioner which is recognized as engineering.



PARLEZ-VOUS EKSETRA

We understand that the government is spending thousands of dollars in its bilingual program for the teaching of French to wives of Members of Parliament so

they can converse in two languages at cocktail parties. (Actually up until this announcement reached us we had always thought Martini was an international word.) While we do not wish to appear presumptuous we do think it might be money better spent if courses in English, as we speak and understand it in the west, could be given to cabinet ministers. Several of the cabinet ministers from Quebec could use a refresher course in the use of the English language, but the greatest need of all is probably that of the Minister of Agriculture, Hon. Eugene Whelan. During the egg fiasco we were exposed to Mr. Whelan regularly on radio. It does make one wonder how the simultaneous translators in the House of Commons cope with Mr. Whelan's vocabulary, composed as it is of "I seen", "It don't matter", "I done it," and "Eksetra", a word he is so fond of it crops up (No pun intended) in almost every sentence. It would be more understandable if he would use "Eggsetra."



COMING EVENTS

- Nov. 21, Viscount Gort — Design of Steel Beam Columns and Unreinforced Concrete Pavement Design (sponsored by CSCE)
- Nov. 28, International Inn — Metric Cocktails (sponsored by Manitoba EIC Council)
- Dec. 5, Room 234 Engineering Bldg. Univ. of Man. — Microwave Current Transformer (sponsored by IEEE Power)
- Dec. 10 — Engineers Alumni Annual Meeting.
- A.P.E.M. Annual Ball — Saturday, March 8, 1975.

MOVING?

PLEASE let us have your change of address

FIFTY-FIFTH ANNUAL GENERAL MEETING

FRIDAY, NOVEMBER 29th, 1974 and
SATURDAY, NOVEMBER 30th, 1974

INTERNATIONAL INN

PROGRAMME

Friday, November 29, 1974

2:00 p.m. Meeting of Council, Committee Chairmen and all
Committee Members to discuss resolutions

Saturday, November 30, 1974

8:45 a.m. Registration Opens

9:00 a.m. Official Opening by President
Announcement of Winners of Early Bird Draws
Annual Meeting Convenes
Introduction of Head Table
Minutes of Annual Meeting of November 29, 1973
Minutes of Special Meeting of September 18, 1974
Declaration of Councillors Elected
Reports
Auditors Report and Appointment of Auditors
Draft Budget

10:30 a.m. Coffee

10:45 a.m. Proposed amendments to by-laws

11:30 a.m. Resolutions

12:00 Reception - Cash Bar

Council Meeting

12:30 p.m. Lunch

2:00 p.m. Declaration of Officers Elected

Nominating Committee Appointments

Resolutions, continued

6:00 p.m. Reception

7:00 p.m. Dinner

Introduction of Head Table

Presentation of Awards

Ceremony of Turning over Gavel to Incoming President

Presentation of President Certificate

9:00 p.m. Dance

Bring this Programme to the Meeting