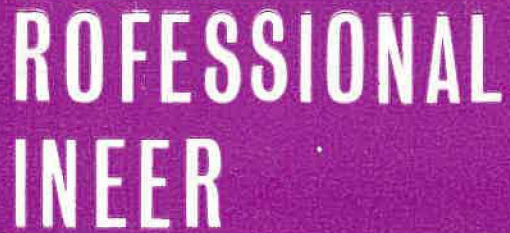


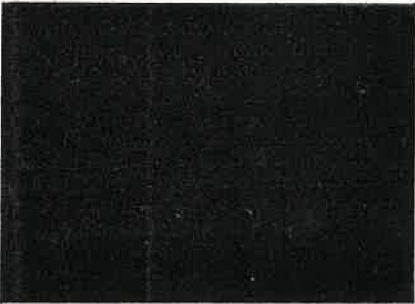


**THE
MANITOBA**

**P
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**PROFESSIONAL
INEER**



**bulletin of the
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President - C. R. McBain, P. Eng.

Vice-President - G. A. De Pauw, P. Eng.

Managing Director and Registrar - T. W. Algeo, P. Eng.

Council - S. Barkwell, C. R. Bouskill, N. P. Feschuk, D. R. Grimes, J. S. Hicks,
A. M. Lansdown, M. D. McKall, R. E. Scouten.

The Manitoba Professional Engineer is published under the direction of the Bulletin Committee.

Editor - E. A. Speers, P. Eng.

Associate Editor - J. W. J. Lewis, P. Eng.

Committee Members - R. M. Stokes, A. J. Poetker, M. N. Collison, C. H. Templeton,
R. R. Foster, R. J. Rennie, W. R. Newton, A. G. Kuluk, L. J. Whitney, S. J. Armstrong.

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

WINNIPEG, MANITOBA, AUGUST, 1973

President's Message

By C. R. McBAIN, P. Eng.

The relationship between the University, the engineering student, the engineering professor and the practising engineer has always been one of interest and concern to members of this Association, be they academics or other practising members. On May 23, 1973, Dean J. Hoogstraten was host at a luncheon on campus at which faculty members met with "town" members of the Association to discuss matters of mutual concern. A most worthwhile discussion was held on such topics as engineering professionalism, the role of the Association in providing the engineering student with knowledge of his professional responsibilities and measures whereby the practising engineer would have an opportunity to assist students in areas of professional responsibility. The group expects to meet again in September and to consider proposals which would jointly benefit all parties. I firmly believe that the Association has a key role to play in bringing together those of its members who educate our new engineers with off-campus practising engineers, and I am very pleased to see this encouraging activity.

Considerable interest exists among our membership on the methods and procedures used by the Association in its Nominating Committee and elections. Council has authorized the Legislation Committee to

hold a "smoker" in September or October to give the membership an opportunity to express their views on these matters.

The provincial election in June saw five members of our Association throw their hats into the political ring. Don Craik, P. Eng. was re-elected and George Minaker, P. Eng. was elected for a first time in the provincial field. The others gave it a good try. On behalf of the Association, I am pleased to extend our congratulations to all of these men for the interest they have in our provincial political affairs.

I am pleased to be able to tell you that the financial affairs of our Association are in good shape. Our membership as of April 30 stood at 1859, this is 43 above the figure of one year ago. This level of membership, together with the fee increase put into effect this year, have put our financial situation into very good shape.

August is probably the quietest month of the Association year. Our staff members take a well-earned vacation, and it is the only month of the year in which Council does not schedule a regular meeting. September will see all activity back at its regular level. I hope you all have the opportunity to enjoy a pleasant summer vacation.

EYES OF THE PROFESSION

The primary purpose of the Association is the protection of the public through the administration of the Engineering Profession Act. Act enforcement is a very vital segment of this administration.

Act enforcement is the responsibility of each member of our profession, keeping in mind that any action must be directed through the proper channel of the Association. The members are the "eyes of the profession" and each member should be concerned with the professionalism of engineering, the safe-guarding of the general public and the image projection of engineers.

Section II(1) of the Act states:

"Only those persons who are members of the Association or who have received a licence from the Council as hereinafter provided, shall be entitled within the Province of Manitoba to engage in the practice of professional engineering, or to take or use the title of professional engineer or any abbreviation thereof."

Persons contravening the Act fall into two basic categories; non-members or members.

Non-member violations are covered under Section 28 of the Act which states:

Save as in this Act otherwise provided, no person shall

- (a) engage in the practice of professional engineering; or
- (b) assume verbally or otherwise the title "professional engineer" or any abbreviation thereof or any name, title, designation or descriptive term that may lead any other person to believe that he is a professional engineer or entitled to engage in the practice of professional engineering; or
- (c) act in such manner as to lead to the belief that he is authorized to fulfil the office of or to act as a professional engineer; or
- (d) advertise, list, display or use at any time or in any manner or permit to be used at any time or in any manner in connection with his name, any name, title, designation or descriptive term, implying or calculated to infer that he is registered under this Act or entitled to engage

in the practice of professional engineering;

unless he is registered under this Act and is a member of the Association or is the holder of a subsisting licence granted under this Act.

Some examples are misrepresentations of company names (i.e. Engineered Widgets Ltd.; XYZ Engineering Ltd.), in advertising media (i.e. our products are engineered); job titles (i.e. Resident Engineer, Project Engineer); on business cards (i.e. John Doe, P. Eng.).

Non-member violations are investigated by the staff and appropriate actions are taken. In the case of serious contraventions, action is considered by Council.

Member violations are referred to the Practice and Ethics Committee which considers the complaint, initiates further investigations if deemed necessary, analyses all gathered information and either dismisses the complaint or makes a formal complaint to Council who will consider further disciplinary or legal action against that member. The Council may reprimand, censure, suspend, or expel any member guilty of unprofessional conduct, negligence, or misconduct in the execution of the duties of his office. All members have a responsibility to conduct themselves in accordance with the Code of Ethics.

Each member can and should participate in the enforcement of the Act. Do you have a complaint concerning unprofessional conduct? Negligence? Misrepresentation by personnel, groups, or companies? Do not keep these violations secret — submit such complaints to the Registrar of the Association and appropriate follow-up action will be taken. Further action is taken in the name of the Association and names of persons submitting complaints are kept confidential.

Remember, the members are the eyes of the profession so if you see a contravention, pass the information on to the Registrar of the Association. —T.B.G.

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LOMBARD LINES

By L. J. WHITNEY, P. Eng.

June 5

Council today endorsed the general responsibilities and program of the Engineer In Training Mentor Sub-Committee of the

Membership Committee and requested that the Sub-Committee provide its guidelines for the program for Council's consideration. The Sub-Committee feels that the Engineer In Training should have access to the proposed program immediately upon registration with A.P.E.M., irrespective of place of employment and in accordance with discipline. It is also felt that if possible the Mentor and the Engineer In Training should be matched as to interests including social activity. The Sub-Committee proposes that each Mentor - E.I.T. pair, which would operate independently of other pairs, should meet at least four times a year for a visit that may be problem related, consist of casual general discussions or be socially oriented. It is felt that a combination of all three would be the most beneficial. In the near future, requests will be made for volunteers to become mentors in the program by distributing a questionnaire to each member of A.P.E.M. The position of "wise and faithful counsellor" is open to any registered professional engineer, of any discipline, who would be available for approximately 20 hours per year.

The balance of today's meeting was taken up with licences, transfers and registrations including a lengthy meeting with a potential applicant for registration. After almost four hours it was agreed that the remainder of the agenda would be dealt with at an extra meeting of Council scheduled for June 12.

June 12

This extra meeting of Council opened with Council receiving for information the second quarter membership statement and the second quarter financial statement. As of April 30, there were 1859 engineers registered with the Association compared to 1816 one year ago.

Council then approved the minutes of a special meeting of Council and members of the Employee Engineers and Legislation Committees. Council also authorized the distribution of a report on "Collective Bargaining and the Manitoba Professional Engineer." The report outlines a wide range of possibilities on how employee engineers may relate to their employers following the implementation of the new Labour Relations Act of Manitoba. The new act has opened up new possibilities in terms of organizing under the Act, and has reduced the possibilities of voluntary organization outside of labour legislation.

July 10

Today's Council meeting got under way at 11:30 a.m. with President McBain in the Chair and Councillors DePauw, Grimes, Feschuk and Past President Barkwell making up the quorum. The meeting progressed rapidly through approval of the minutes of the last meeting, payment of the accounts and the granting of licences, registrations, transfers and reinstatements. Council then authorized the Legislation Committee to proceed with arrangements for a "Smoker" in September or October to consider nomination and election methods.

The meeting concluded with Council approving the minutes of a meeting of the Board of Examiners and the reports of the Nominating and Legislation Committees.

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EMPLOYEE - ENGINEERS

By M. D. McKALL, P. Eng.

The term "employee-engineer" usually creates a controversy whenever it is used at annual meetings, council meetings, smokers or other gatherings to discuss matters relating to the Association. Some contend that all engineers are employees as there is always a "boss" to report to, be it the stock holders, the president, a board of trustees, a minister of the government, etc. However, the term employee-engineer usually refers to those engineers that are employed by a company, large or small, just like other employees of the company. They are not principals, partners or part owners of the firm. They are not involved in the policy making or administration of the organization. They are, in the true sense, employees.

In some instances, under our present labour situation, employee-engineers are feeling more and more like second-class employees. With the labour movement organizing more and more of the white collar workers, the engineers are finding themselves with less of a voice in matters involving working conditions, salaries, policy and administration. Managements are increasing their labour relations capabilities and skills to deal with the unions and have left a significant segment of their employees unattended. Included in this group are professional engineers. The situation is worsened by the use of methods developed for dealing with unions on this unorganized segment of employees. Because of

the lack of bargaining power, these unorganized groups are becoming concerned and are seeking a solution.

What are some possible solutions? The most obvious solution is for the engineers to organize into a certified bargaining unit of their own or join an existing union. Because engineers dislike the traditional trade union concept, there is reluctance to move in this direction except as a last resort. Also this method will further separate the professional engineer and management by introducing outside parties.

A more palatable course of action is the formation of a voluntary group to negotiate and communicate with management. However, this method is plagued with problems. The most serious is the lack of bargaining power. This lack of power is aggravated by labour relations personnel using the attitudes, methods and techniques developed for bargaining with certified unions. A voluntary group approach must be handled differently than a certified union and preferably by different personnel. Other difficulties for voluntary groups are the Manitoba Labor Relations Act (Bill 81) which discourages this form of negotiation and the reluctance on the part of some managements to enter into this type of arrangement.

Another method is for management to recognize the situation and move to resolve it as it does for any engineering project. Assemble a group of engineers to represent the various disciplines and/or departments. This group will act as the channel of communication between management and engineers on matters relating to salaries, work conditions, policy and other such items. It is felt that this method would, in a professional way, resolve the majority of issues to the mutual benefit and satisfaction of engineers and management. It would also retain the professional engineer closer to the management function as he should be.

What are some of the concerns expressed by the employee-engineer today? The accelerated rate at which the salary gap is closing between engineers and the trades, teachers, technicians and other non-professions. It is acknowledged that this gap is also closing on the other professions such as medicine and law; however, not nearly as quickly due to the higher salaries in those professions. This situation cannot be rectified by negotiations between one company and its engineers. This is a problem that must be dealt with by the total profession of

engineering. The question is, what is adequate and proper remuneration for engineering services? In the meantime, local negotiations must bear enough fruit to allow the engineers to "keep up with the pack." Without this, it will be difficult to encourage worthy and talented individuals to join our profession.

Many employee-engineers have the feeling that too often today their welfare is determined by the spin-off from unions which are bargaining for others within the company. Management spends the major part of its industrial relations resource where it has to, on the organized groups to the detriment and frustration of the engineer. In many cases, the engineers and other unorganized groups have little or no discussion or consultation as to their salary increases or other needs. This is usually a one-way channel of communication. Is it at all surprising that there is a movement to organize among engineers?

Another concern that the profession must address itself to is the rate at which engineering salaries level off at, both in years and magnitude. The starting salaries and the rate of increases in the first few years are good in comparison to other occupations. However, this rate is not sustained for very long. After 6 to 8 years this trend levels out at about \$12,000 to 15,000 per year and increases are very marginal for many years, possibly creeping up to \$20,000 after 40 years of practice. Now there was a time a few years ago when a salary of \$15,000 to \$20,000 per annum was considered very good for professional services. However, today many trades and para-professionals are receiving salaries in this range. How should remuneration of professional engineering services compare with that of other professions and occupations?

In conclusion, the above are some of the items that the engineering profession must contend with. I feel that with the proper approach and attitudes on the part of engineers and management most of the issues causing dissatisfaction within the profession can be resolved in a professional manner without certification. Also as the majority of our members are employee-engineers, there is a real concern among engineers as to how their remuneration compares with other professions and occupations. The question of salaries for engineering services must be studied in depth. If the results show that higher salaries are warranted, then the profession will be that much better off. If the outcome confirms the

status quo the profession will better understand and hopefully accept its position and perhaps re-affirm the statement "If I was in it for the money, I would not be in engineering."

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NOMINATING AND ELECTION METHODS

By G. R. SMITH, P. Eng.

(For the Legislation Committee)

A complete study of "Nominating and Election Methods" is presently being made by the Legislation Committee and this editorial is presented in order to stimulate some thought on the subject.

Article 6 of the Engineering Profession Act states "There shall be a Council of the Association consisting of the president, vice-president, and not fewer than five councillors, who shall be elected from the members of the Association and hold office as provided for by the By-laws of the Association". The By-laws referred to are By-laws 1 to 6 inclusive.

The following suggested changes to By-laws 1 to 6 are open to consideration by the Legislation Committee, as well as any other suggestions the Committee receives.

By-law 1 — This By-law states that the present composition of Council is a President, Vice-President, and seven councillors, with the immediate Past President an ex-officio member of Council.

Suggestion — An additional two councillors would give a better representation of the membership on council.

Comment — Council has already adopted the policy by resolution that the immediate Past President be made a full voting member of council.

By-law 2 — This By-law states the procedure that the Secretary is to follow in notifying all the members of the date and place of the Annual General Meeting and that nominations for council shall be made on the nomination forms sent with the notice.

Suggestion — By-law 2 should state what may appear on the Nomination form — i.e., year of registration with the Association. Other information, such

as year of graduation and degree, may not be relevant on this form.

Suggestion — By-law 2 should make reference to the 'Nominating Committee', which is presently being used to nominate candidates for Council. The By-law should spell out the composition of the Nominating Committee and its terms of reference. Some form of proportional representation could be required of the Nominating Committee in its composition, as well as in its selection of candidates. However, what form of proportional representation should be used? Should it be based on engineering disciplines (civil, electrical, mechanical), employment position (management, employee engineer, consultant, professor), regional representation of Manitoba, or some combination of these.

Suggestion — By-law 2 should state under what conditions the Nominating Committee is activated. If an **adequate** number of candidates is nominated by the membership at large, it may not be necessary to have the Nominating Committee make nominations at all. Perhaps an **adequate** number of nominees would be twice the number of open council positions.

Suggestion — By-law 2 should ensure a fair election by stating that the nominees of the Nominating Committee not be published in advance of or distinguishable from the nominees of the general membership.

Suggestion — By-law 2 should allow for a Town Hall type of meeting with a declaration of platform by each nominee. This would give an opportunity for the membership to meet and evaluate each candidate. The platform declarations by the candidates could include their stand on important matters affecting the Association, such as standards of admission to the Association, closer contact with the University on curriculum, and interpretation/enforcement of the Act, etc.

By-law 3 — This By-law sets out the procedure for sending out the ballots, counting votes, and declaring candidates elected.

Suggestion — By-law 3 should clearly define what should be on the ballot

with each candidate's name. It should also concisely define the history of each candidate's activities which may be used, in order that no candidate has an unfair advantage over another. The history could include a description of a candidate's activities in the A.P.E.M. and/or in another provincial professional engineering association, a description of his other engineering activities, his field of engineering, his year of registration in the Association, and a declaration of his platform. A candidate's position or title, year of graduation, or a list of his past employers, etc., may not be relevant.

Suggestion — By-law 3 should clearly define the meaning of the "Rules of Proportional Representation", which decides the manner in which the votes are counted and the election of the members is decided. Either a definition in By-law 3 is required, or the "Rules for Counting Votes according to Proportional Representation" should be identified in the By-laws.

By-law 4 — This By-law indicates that the newly elected Councillors take over their position at the close of the Annual General Meeting. It also states that all the councillors for the ensuing year shall meet and elect from their number a President and Vice-President, either during or immediately after the Annual General Meeting.

Suggestion 1 — This method of electing a President and Vice-President be maintained except that the meeting of council be held in the presence of the members during the Annual General Meeting.

Suggestion 2 — That the President be elected by popular vote (no experience required), with a Vice-President-Administrative and Executive Vice-President elected by council.

Suggestion 3 — That the position of President-Elect (or Vice-President) be decided by popular vote, separate from the Councillors. This would allow at least one year for the future President to sit on council and gain the necessary experience and background knowledge for the position.

By-laws 5 & 6 — These By-laws state that the term of office of President

and Vice-President is one year with not more than two terms in succession.

Suggestion — By-laws 5 and 6 likely need changing only if there is a change in the method of electing a President and Vice-President.

The above suggestions for changes have already been presented to the Legislation Committee through correspondence received from concerned members.

Please forward your opinions/suggestions regarding the above to the Legislation Committee, c/o the Association office.

Members can look forward to a smoker hosted by the Legislation Committee on "Nominating and Election Methods" in the near future.

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From the above picture it will be noticed that the Association was well represented at the official opening of the Kettle Generating Station and the Nelson River Transmission Facilities on June 16, 1973. President Clyde McBain, Councillor Dave McKall, Past President Stewart Barkwell, were well informed by Bruce Sinclair and Harold Hopper of Manitoba Hydro, who acted as personal guides for the group. Past Presidents T. E. Story, R. Hood and W. L. Wardrop, were present. L. A. Bateman, also a Past President, was Chairman of the opening ceremonies and host for the luncheon.

FLIN FLON NEWS

By M. N. COLLISON, P. Eng.

Herewith Flin Flon news for the next issue of The Manitoba Professional Engineer. I think this month's report could more properly be called "Lake Athapapas-kow News" as you will see.

J. R. Sadler has just completed two weeks' holidays at his summer home on Lake Athapap. While he is not happy with the weather and although he spent most of his time painting, carpentering, and gardening, he still reports a very successful two weeks.

Being our general manager, he broke into his vacation to attend the topping out ceremonies of our new 825 ft. stack. This ceremony was performed on July 10. He also came to town on June 29 to present 25-year service watches to 29 employees. To date 1,209 employees have received these watches and 611 of them are still on the payroll. Among those who received watches was H. A. McKenzie, P. Eng., Executive Vice-President of Hudbay. Hal received his watch and also took in the Trout Festival activities over the July 1 weekend. He was also recently elected to the Board of Directors of Hudson Bay Mining and Smelting Co., Limited.

H. L. Easton, P. Eng. has had a visit from his son and daughter-in-law from Montreal. Most of their time was spent at the cottage on Lake Athapap. Harry reports a most enjoyable visit and some excellent fishing and canoeing.

W. J. Stickney, P. Eng., and wife Irene are proud to announce the birth of their second granddaughter. The happy parents are their daughter Jill and husband Jim Wray of Hamilton, Ontario. Bill and Irene were there at this joyous time on a little holiday trip; in fact they had only arrived the day before the stork did.

L. W. Ogryzlo, P. Eng., and wife Grace have been at their cottage on Lake Athapap for the past two weeks. Grace is going to remain for the summer, but Larry will return to Toronto and to work. He was recently appointed to the position of Vice-President of Exploration and Development. He has been Vice-President of Exploration for many years.

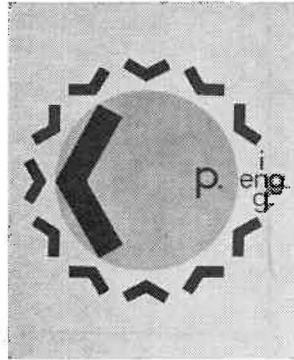
S. F. Liss, P. Eng., has returned to work after 3 weeks' vacation at Lake Athapap. He spent most of his time working on

his cottage but did manage to get in a little fishing.

R. F. Pearson, P. Eng., has returned from a 3-week management training course at the University of Western Ontario. Frank reports an intensive program of learning and relaxation assimilated and enjoyed. He is one of many who do NOT have a summer cabin at Lake Athapap. His is at Denare Beach on Beaver Lake in Saskatchewan.



C.C.P.E. NEWS



Russell Hood, a Past President of this Association, has been elected President of the Canadian Council of Professional Engineers.

Since the start of its on-site evaluations, the Canadian Accreditation Board has visited a total of seventeen engineer schools and has assessed eighty-two engineering programs.

A special committee of the directors is working on a uniform definition of Engineering.

The President of the Canadian Council and the President of the Engineering Institute of Canada have signed a Joint Policy Agreement, which makes the CCPE responsible for the practice of engineering while the EIC will be in charge of developing and publicizing and encouraging knowledge of engineering. Both groups will be jointly responsible for education, training, international representation and standards and codes.

THERE'S A WATCH BIRD WATCHING YOU

The following statement appears on page one of the membership roster. "This Roster is published for the use of A.P.E.M. members only and its use by an unauthorized person or company is forbidden." The categories may have to be expanded to include "politicians." In order to trap the unwary, and police its use, the roster contains the name of a non-existent person. This non-person received a communication from a politician (not a professional engineer) on June 21, 1973. In order that members will know who is using (or abusing) the roster, future issues of the Bulletin may document all the mail received by our non-person.

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A BIT OF CANADIAN (?) CULTURE OVERHEARD BY AN ENGLISH SPARROW SOMEWHERE IN NORTHERN MANITOBA

By R. J. RENNIE, P. Eng.

Prospector: 'Come on out of that pit Jimmy and have a rest, the gold won't go away.'

Jimmy: 'O. K. Spud, it's getting pretty hot down here, sure could use a beer'.

Prospector: 'Got this old newspaper over at Oxford House, says here that you Indians haven't adopted the White Man's work ethic yet. So you had better get out of that pit before you get too ethical!'

Jimmy: 'O. K., O. K.'

Prospector: 'Look here, that government of ours has invented a new department about multi . . . multicc'

Jimmy: 'Multiculturalism?'

Prospector: 'Thanks. How is it we is all trying to be different, Jimmy?'

Jimmy: 'Believe me, I'm not trying!'

Prospector: 'You know, it makes me wonder what real Canadian culture we got besides beer drinking.'

Jimmy: 'Who needs anything else?'

Prospector: 'Well, we have several institutions like the CNR-never on time and seldom on the tracks in these parts. Hmmm, let's see, I think you would like this one Jimmy - the Mounties.'

Jimmy: 'Ptooy'

Prospector: 'Canada's famous for fishin' and huntin' - that's culture isn't it?'

Jimmy: 'Yeh, fishin' and huntin' with all those rich Americans is damn good culture especially when there is no prospecting to do.'

Prospector: 'Now take this gold we're lookn' for, and the oil and the minerals - that's put Canada on the map.'

Jimmy: 'I suppose so.'

Prospector: 'Actually, all this stuff doesn't stir me at all. I guess that all these ethnics furriners do make us cultural or somethin' and the government is probably on the right track. You and I Jimmy represent the first and last true Canadians, the Indian and the trapper-prospector, but we're vanishing now. Come to think of it I'm not even Canadian born myself. I was born in Latvia and came to Canada as a boy.'

Jimmy: 'Latvia, that's near Russia right?'

Prospector: 'Yeh, how did you know?'

Jimmy: 'All this damn T.V., a guy has to learn something.'

Prospector: 'Well Jimmy, I guess you fellows are the only real Canadians, all the rest of is furriners and ethnics.'

Jimmy: 'Ha, ha, don't look at me.'

Prospector: 'What do you mean?'

Jimmy: 'My old man was born in Glasgow.'

Prospector: 'Where's that?'

English Sparrow: 'Ugh!'

Jimmy: 'Never mind, let's do some more digging.'

WHAT NEXT FROM THE CBC??

ITEM: If the Council of this Association invited someone to appear as a guest speaker at an annual meeting, should this Bulletin then poll its members to find out how they felt about the guest of honour, and then publish only uncomplimentary remarks? Engineers are far too well mannered for this sort of boorish behaviour, and it is high time the people in charge of the CBC stopped acting like spoiled brats with an expensive toy and conducted themselves in a responsible manner. If they cannot do this, then Parliament should cut off their supply of funds.

Come out for a visit, the Prime Minister said;

He wrote on behalf of us all;
Come to Toronto, Regina, the Maritimes,
and
Her Majesty heeded the call.

No union for her when she visits our shores,
Fourteen hours long is her day.
The crowds lined the streets, and they
clapped and they cheered,
As Her Majesty wended her way.

Pierre wrote a speech, which he gave her
to read,
And she read it, so we would all know
He regarded the Queen as a unifying force,
And he thought he should tell us twas so.

She was greeted with courtesy, charm and
respect
From those she was able to see,
Politicians, fishermen, mounties, plain folk,
From all but the darned CBC.

While she's here in our land, asked by
our P. M.

To partake of a few celebrations;
The CBC subjects us all to some more
Of its stupid, bad-mannered gyrations.

"Man on the street" chats with some quite
silly oafs,

Asked what did they think of the Queen.
They broadcast the results in a display of
poor taste

We surely have not before seen.

On cross country check-up they did the
same thing

To assure us they really were crude;
With our funds they do it, and we want
to know,

Why does Parliament let them be rude?

When we invite guests to visit our shores.
We owe them complete courtesy,

Especially from those the taxpayers support,
Including the darned CBC. —S.J.A.

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NOMINATING COMMITTEE REPORT

The Nominating Committee, under the Chairmanship of Stewart Barkwell, has submitted the following slate of nominees for Council for the election to be held in November, 1973: G. A. DePauw, D. R. Grimes, E. F. Glass, A. G. Moffatt, E. I. Lexier and R. O. Sochaski.

Further nominations may be made by members on the form which will be mailed at a later date.

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P. Eng. MLAs

Congratulations to Don Craik and George Minaker, both of whom were elected to the Manitoba Legislature in the recent provincial elections.

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We regret to record the deaths of A. W. Fosness, an honorary life member, G. A. Muir and H. C. D. Briercliffe, formerly active on committees.

LETTERS

Opinions expressed in Letters to the Editor are not necessarily those held by the Bulletin Committee, the A.P.E.M. or the Council of the A.P.E.M.

Dear Editor:

I read with interest the article on Free Enterprise Engineering by D. R. Grimes, P. Eng., in your June Bulletin. I agree thoroughly with a number of the points made by the writer. As a practising engineer, I believe, for instance, that a professional engineer in general is certainly not overpaid, particularly in comparison to other professionals. Further as a token capitalist, I am very much in favour of free enterprise and of profits. And the definition of Free Enterprise Engineering in Mr. Grimes' opening line is beautiful. Nevertheless, I believe the writer fails to resolve, except in a very subjective sort of way, any of the issues which he raises, i.e. efficiency, merit rewards for staff, and fees for services.

Since debate of these issues could be prolonged to infinity, I will for the present restrict my remarks to the matter of competition and fees from a client's viewpoint.

Competition between professionally educated and trained engineers is rejected because "service provided is not easily measured". Yet as a designer and builder of water and sewerage works, I feel that there is, with some exceptions, a great deal of similarity between projects from the designer's standpoint. Not so for the builder. The contractor (often without the benefit of professional training) must contend with varying soil and water conditions, unpredictable weather conditions, sporadic delivery schedules, unknown labour situations, strikes affecting manufacturing, transportation and construction AND he has to put his price on a signed contract **before** he begins any work. There's an anomaly here somewhere. If such competition protects the client and keeps contractors efficient and honest, perhaps it would make engineering firms even more efficient and honest if indeed that is possible.

I recognize the problems associated with establishing a fee based on either the consultant's cost or the cost of the work. From my viewpoint, I see fewer problems with the former, particularly in a competitive

situation. A fee based on the cost of the work is "readily understood" and "easily estimated", but these are extremely weak criteria. Such a fee system breaks down when external conditions, such as weather, strike, labour shortages and high material costs, bring project costs out of proportion to engineering input. Perhaps also there is a temptation to "gold plate" a design to bring costs up so that fees can be commensurate with engineering input. If such an unfortunate situation developed, the client would be penalized by a ratio of approximately 10:1 in increased project costs. Why not rather require a fee based on engineering costs and reduce the project costs to the client's benefit?

There's another anomaly that sometimes develops in the percentage fee system. If the engineer makes an error in his design (and they sometimes do) it usually involves extra work and extra costs to the project. Hence, an increase in the engineer's fee. A nice reward for his error!

If, however, the competitive idea were applied to the consultant's cost system, I can see most of the problems being resolved. The consultant already has a "cost control program". He's efficient and competent. Competition would make him more efficient and more competent. And as a professional, he would hold to his principle of "excellence in engineering and soundness in business and engineering judgment". He's concerned with his reputation and with repeat business. His competence in his field of expertise will enable him to evaluate with reasonable accuracy the cost of designing a particular project, as well as the cost of the project itself before the client has to commit himself to accept the proposal for services. After all, this is what free enterprise contractors must do. Of course, he will make more profit on some projects and less or perhaps none on others. But that's the way of free enterprise.

Perhaps this is a simplistic approach but I personally believe (if I may be so presumptuous) it would largely resolve the difficulties which the A.P.E.M. schedule of fees attempts to overcome. Also I believe that many engineers would agree with me, though perhaps not publicly.

If free enterprise engineering without competition is "courage to stand forward", then any true free enterprise in the face of competition is sheer valiance.

Your truly,
-A. J. POETKER, P. Eng.

Dear Ed.

I did not do too good in school this year and I gotta rite a essay in the summer on the End Vironment because thats very big these days.

The teacher did not tell me what that was so I looked in the dicshunary. End means there aint no more and Vironment aint in the dicshunary. My mummy says she thinks it is a french word for truth or something.

So I guess I gotta rite a essay on There aint no more Truth. I guess probably it has something to do with elections because they are big this year and my daddy says they buried the truth in the election campayne and committed a offense on the grave. If there aint no more truth how can I write a essay about it. My daddy said I should ask Archie Bunker or S. J. Armstrong. Archie Bunker aint here so please get Mr. Armstrong to tell me about the truth that was before the election. What do you suppose the feds are going to do with no truth to bury in the next Ottawa election. Do you suppose that was what the Repoblicans were listening for at the Water Gate. If you have any odd bit of truth lying around unused please send it and I'll hand it in (and I hope it dont smell).

—DEBBIE

Age 8

♦ ♦ ♦

PARK DWELLERS

Recently we heard that one of the security guards whose duty it is to patrol Memorial Park, was shoved into the fountain. Rumours have been neither denied nor confirmed that it was he who dispatched a prayer up yonder, beseeching that the heavens should open up and that all Winnipeg's parks should be deluged with rain and hail for the better part of forty days and forty nights, particularly the latter.

A kind reader has sent us a copy of a notice, which appears in the Parks at Christ Church Meadows, Oxford England. It reads:

"The Meadow Keepers and Constables are hereby instructed to prevent the entrance to the Meadow of all beggars, all

persons in ragged or very dirty clothes, persons of improper character or who are not decent in appearance and behaviour; and to prevent indecent, rude or disorderly conduct of every description. To allow no handcarts or wheelbarrows . . . no hawkers or persons carrying parcels or bundles so as to obstruct the walks."

We think there would be little merit in erecting a similar sign in Memorial Park. Either persons with wheelbarrows in England are much better behaved (or controlled) than their counterparts in Canada, or else the English have the wisdom to build parks without fountains. —S.J.A.

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OFF THE LINKS

Rain and hail fell everywhere in Winnipeg except on the 103 engineers who were golfing at Breezy Bend.

R. R. McKibbin was one of the first to arrive — having the longest distance to come — from Birtle. After watching the highways department foursome tee off Sports Committee Chairman Bob Jeske quipped "The best drive they've had so far was out to the club in the car."

Bob Foster, easily the best dressed engineer in Canada off the golf course, took second place in athletic attire to Bruce Clapham.

Frank Arnason, who was hit on the head with a golf ball in the Fall tournament, sat in his car until someone brought him the word that surveyors Kilgour and Linklater had gone off for the second nine and then he emerged. He had forgotten his hard hat or he would have appeared sooner.

Chuck Lee, Dallas Mowat and Paul Lowe were seen drinking beer before the game in spite of advice from Chairman Jeske, "If you drink, you won't drive." They were not a bad influence on their companion Bob Gottfred, who stuck to a double — two cokes, straight.

J. Boge, who graduated in 1971, set a bad example for the older engineers by drinking and smoking after the first nine. Len Domaschuk upheld the image of the

pedants by drinking before he started his game.

As someone pointed out, Chairman Bob Jeske was lucky to have his grey-haired daughter helping him at the registration desk. Fred Young tried to bribe her with wild flowers picked in the bush as he looked for lost balls.

Councillor George DePauw did not take time out from his bridges to play golf but he did come out for lunch and a brief visit with the athletes.

Registrar Algeo, Board of Examiners Chairman Musick and Associate Editor John Lewis were not surprised that the Association's new Assistant Registrar, Guy Arnott, spent so much time looking for balls among the oaks. After all, anyone who can't even complete the first assignment of finding the clubhouse without getting lost is bound to be in trouble on a narrow fairway.

Glen Thorsteinson won the Landon cup for the low gross. Other winners were L. Greer, G. Edgar, G. Kilgour, W. Mackenzie (of the Sports Committee), G. Kruk, A. Carlson, A. Joyce, R. Van Cauwenberghe, R. Brown. Birdie winners were L. Greer, W. Mackenzie (of the Sports Committee), G. Thorsteinson, G. Marshall, L. Eibner, V. Wiens.

Prize donors who helped with the success of the tournament were Monarch Machinery, W. L. Wardrop & Associates, Mumford Medland Ltd., B.A.C.M. Construction Co., Dominion Bridge Co. Ltd., Reid Crowther & Partners, Protek Electronics Ltd. and Terry Algeo donated a couple of plane rides.

—S.J.A.



ENGINEERS WIVES QUIZ

Do you refer to his mother as "your mother" or "my mother-in-law"?

If your husband has an important client in town do you suggest that you stay at home all day whipping up exotic dishes, or do you propose that your husband take the client out to dinner, or do you suggest that the client stay at his hotel left to his own devices and that your husband take you out to dinner?

If your husband has been out late with

"the boys" on a Friday night and comes home smelling like a brewery, on Saturday morning do you send the children out to play and take your husband some coffee and juice and an ice pack, or do you decide to go down town shopping and leave the children at home, with instructions that they must play inside because it is raining?

If he wants you to go to his bowling wind-up on the same evening that you want him to go to a function at the church, do you insist that he go with you to the church, or do you suggest a compromise such as going to a movie?

When the children are misbehaving, do you refer to them as "your children", do you remind your husband that they are getting more like him every day or do you just go out and let him cope with it all?

If your husband puts up an election lawn sign supporting someone you are opposed to, would you put up a different sign beside his, would you put your sign up in front of his, or would you turn his around to face the house and have yours facing the street?

If your husband says you are having budget difficulties, what would you suggest should be given up first: your husband's cigarettes, your husband's lunch allowance (you would then have to pack him a lunch); his football tickets?

In the matter of the grocery shopping, do you think your husband should do it on Thursday evening, Friday evening or Saturday morning?

If you want to have the car to go to an afternoon tea on a Tuesday, should you drive your husband to work and give him a bus ticket to come home with, or should you give him two bus tickets so you don't have to get up so early in the morning?

Should baby sitting costs come out of your husband's entertainment allowance or his lunch allowance?

If you entertained your in-laws for a family Thanksgiving dinner in 1966, and your relatives for all subsequent Christmases and Thanksgivings, should you invite your in-laws again in 1974 or 1975?

SCORE: If you have answered "Yes" to more than three of the above questions, you are functioning very well as an engineer's wife.

GRADUATE STUDIES IN ELECTRICAL ENGINEERING

Members of the Department of Electrical Engineering at the University of Manitoba pursue a wide variety of research topics — both theoretical and experimental. Approximately sixty students registered in the M.Sc. and Ph.D. programs are involved in both the traditional theoretical and experimental projects and, at least at the M.Sc. level, projects directed towards practical design. There are about twenty full-time staff, five postdoctoral fellows and research associates, and several adjunct professors from other faculties.

Research areas at present include power systems and machines, high voltage phenomena, materials and devices, solid state circuits and communications, microwave engineering, biomedical engineering (in cooperation with the Faculty of Medicine) and network theory and control systems.

While the principal external support for research in the Department still comes from the National Research Council of Canada, there is an increasing component derived from other federal and provincial departments and agencies through research grants and, to a lesser degree, contracts. Many of these granted contracts are mission-oriented and result in both important research results and patentable devices. The Department also offers a Diploma in Electrical Engineering (requiring course work only) which allows those in industry to take advanced courses and to contact others involved in research activities.

The Department has well-equipped undergraduate laboratories, machines and electronic shops, dark rooms for photographic work, materials research, and laser holographic research.

Special equipment for research in materials science includes an ultrahigh vacuum system as well as standard vacuum deposition systems, spectrophotometers, zone refiners, crystal growing units, stitchbonders, scribes, die mounts, an image intensifier, and a 250 kV stabilized d.c. supply.

In microwave research there is a large anechoic chamber in the frequency range from 500 MHz to 40 GHz suitable for near-field antenna research and an outdoor antenna range for far-field studies. Equipment associated with this area consists of antenna turn tables with automatic control and polar and rectangular coordinate plotting, a large dynamic range

spectrum analyzer and network analyzer, a time domain reflectometer, frequency generators and counters.

The communications and electronics laboratories of the Department are equipped with modern oscilloscopes, signal sources, frequency counters, wave analyzers, and other associated standard equipment. Of special note is an HP spectrum analyzer covering the frequency range from audio to 110 MHz and in the digital area digital computer trainers.

The high-voltage laboratory in a separate building houses a 300 kV a.c. 150 KVA supply, a 400 kV d.c. 60 m.a. supply, a 250 KVDC 30 m.a. supply, and a 2400 kV impulse generator capable of fast rise times or long tail switching surges. Associated with the major supply units there is a recurrent surge generator, a fast 3-channel oscilloscope, a 500 MHz oscilloscope, and high-voltage resistance dividers and capacitors for measurement purposes.

The Department also has a large power systems network analyzer and an EAI 580 Analog/Digital Hybrid computer that may be used in conjunction with an IBM System 7 and the University's IBM 360/65 computer. The IBM 360 Model 65 is available for research work either through the Computer Centre or a terminal located in the Department.

A recent booklet "Graduate studies in Electrical Engineering" from which the above is an extract is available from the office of Professor R. A. Johnson, Head, Dept. of Electrical Engineering, U of M or by phoning 474-9603. The booklet names faculty members and gives a resume of their special interests. Over 150 publications that they have produced since 1971 are listed. Details are given on financial assistance, fees and expenses.

Practising engineers who wish to keep aware of progress at the University and to know of the talents and facilities available in the Electrical Engineering department will find this an interesting book.



SOUTHERN INDIAN LAKE

TERMS EXPLAINED

Diversión: A thing you do when you want to detract others from knowing what you are really doing.

Southern Indian Lake: This is a diversion because to most Manitobans this lake is a northern lake.

Discharge: A VD term.

c.f.c.: An abbreviation for "cold fish syndrome", e.g. 10,000 cfc means that there are a lot of cold fishes studying a hot subject.

Flood: A lot of words with political connotations.

Generation: A swear word used by young people usually in association with the word "gap".

Economical: Something that saves me money at your expense.

Regulation: A noun related to the adjective "regular" which is accomplished by judicious use of Ex-Lax.

Stop Logs: Used where regulation fails (nothing to do with Water Gates).

Stilling Basin: A place where you put reports (sometimes as in the case of R. Nixon it has leaks in it).

Brown Out: A sign that the receptionist uses to indicate that Mr. Brown is playing golf.

Head Loss: When you can't get a permit to build a washroom.

Open Channel: A direct line from the boss — flow is in one direction only.

Specific Speed: The speed with which a project must proceed regardless of politics, pros or cons.

Friction Loss: The loss of friends or colleagues, usually brought about by a difference of opinion.

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Very often, at official openings of public buildings, an engineer is invited to represent this profession. We do not know yet when the official ribbon snipping will take place for the hundred thousand dollar urinal in Memorial Park, and we think it would be discreet (since this is a family publication) not to speculate on what form the opening ceremonies will take and who will participate, but we can't help but wonder if our President, Clyde McBain, is invited to be present, just what role he will be asked to play.

EXECUTIVE DIRECTOR The Association of Professional Engineers of Ontario

The Association requires an Executive Director to provide leadership and overall direction and control of all the activities of the Association, within policy guidelines as approved by the Council.

The successful candidate will assume responsibility for the administrative function of the Association, including finance, employee relations, communications, and Council and committee liaison, and will be responsible to the President and Council for the affairs of the Association.

Candidates must be professional engineers, registered to practise in Ontario, or be eligible for registration.

Desirable qualities should include skills in administration, familiarity with legislation affecting professional engineers, the ability to communicate both orally and in writing with all levels of government, members of the profession and the public, and dedication to the profession.

This is a senior position and remuneration will be commensurate with the abilities of the successful candidate. The Association provides a full range of employee benefits.

Interested persons should send a complete resume, stating their qualifications to:

W. L. Bradley, P. Eng.,
Chairman, Search Committee,
Marsland Centre,
Waterloo, Ontario.

All replies will be treated in strict confidence and should be received by 1 September, 1973. Duties will commence in Toronto during April, 1974.

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USE OF SEAL

Section 18 of The Engineering Profession Act reads as follows:

Every person registered under this Act shall have a seal, the impression of which shall contain the name of the engineer and the words "Registered Engineer, Province of Manitoba," with which all estimates, specifications, reports, working drawings, plans and other documents issued from his hand shall be sealed.

CAREER DEVELOPMENT SERVICE

Career Development Service sure is a fancy name, but what is it and what will it do for the members?

Career development encompasses a very broad spectrum of matters with which the employed engineer is concerned in relation to his employment conditions, including, but not limited to, such matters as salaries, fringe benefits, job content, motivation, professional recognition, communication with management, status and employment opportunities.

The Career Development Service has been formed to act as an information and consulting centre which will gather and disseminate information and initiate programs relative to career development.

What services are presently available and which are anticipated in the future? The membership salary survey and the industrial salary survey have both been criticized time and time again by our members concerning their validity and their usefulness as a remuneration negotiation tool. To supplement this historical data, a study is now underway to develop a methodology to indicate how much an engineer should be paid in a certain responsibility level based upon other factors like cost of living, increases of other professionals and tradesmen and fringe benefits. It is anticipated that this system will have a procedure to update the recommended salaries each year. Employees should think in terms of the total "remuneration package"

and not just salary. The Survey of Fringe Benefits as of January 1970, Canada Pay Research Bureau indicates that fringe benefits on an average, amount to 25% of an employee's gross income.

Group formation is another current controversial issue. What are the implications of the new Labour Relations Act? What alternatives are available? How are voluntary groups formed? What are other employees doing? Counselling on these questions and related issues are available on request through the C.D.S. (The E. E. Committee has just completed a summary on this issue).

There is an Employment Service designed to supplement rather than duplicate other employment agencies. A file on positions available and persons seeking employment is being compiled. The Employment Advisory Service is available to aid a member in his search for employment — the recommended steps to take, available employment sources and aids in the search for employment. i.e. (self evaluation, resume).

The C.D.S will also be concerned with continuing education for the members. What courses are presently available at the Universities — both credit and non-credit? Does any group of members request that a seminar be organized?

The present services are available upon request from any individual or group of members. The C.D.S. will also be open to any suggested improvements in existing services and future services.

IT'S AVAILABLE — USE IT

COMING EVENTS

FALL GOLF TOURNAMENT

WEDNESDAY, SEPTEMBER 12th, 1973

ROSSMERE GOLF & COUNTRY CLUB

ANNUAL GENERAL MEETING

THURSDAY, NOVEMBER 29th, 1973

ANNUAL DANCE

SATURDAY, MARCH 9th, 1974