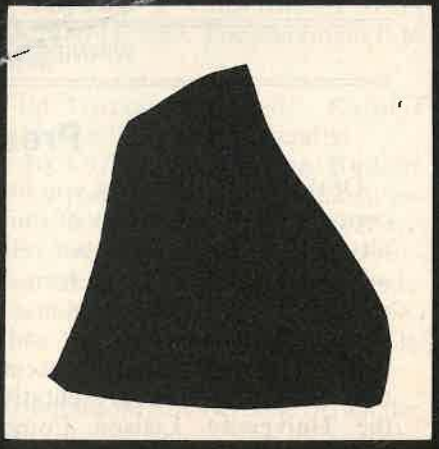
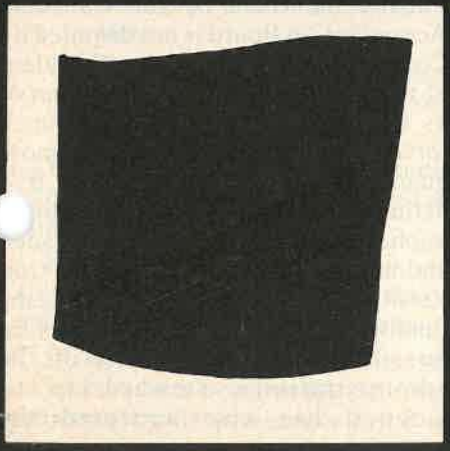
Bulletin

June

79

The Manitoba Professional Engineer





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WINNIPEG, MANITOBA JUNE 1979

President's Message

Of the two letters sent you in April concerning accreditation of our Faculty of Engineering and our relations with MANSCETT, the former has prompted the greater response from the membership. The latest and most substantial of these was a presentation to the Council and representatives of the University Liaison Committee by a "Grass Roots Group" of sixteen of our members, most of whom were present as a delegation to the Council meeting on May 14 "to present and discuss [their] concerted views [on] a) information to the membership about the precarious budget situation of the Engineering Faculty at the University of Manitoba, and b) the position of the APEM concerning the Engineering Faculty's claim that the budgeting procedure of the University is not equitable."

The presentation and discussion lasted about two and one half hours.

There was general agreement by all those present that there are two relevant objectives:

1. The short-term need for establishing extended and unqualified accreditation. (The report to C.A.B. from the University is required in September, 1980).

2. The need to raise the Faculty of Engineering to a level of unquestionable excellence.

The "serious underfunding" of the Faculty identified by the Canadian Accreditation Board is not disputed by Council, the delegation, the President of the University or the Chairman of its Board of Governors, but Council for one would like to know in more quantitative terms, what the C.A.B.'s definition of "serious underfundi[ng]" implies. Council has been persuaded and has accepted as fact that the University administration is increasing the funding of the Faculty as quickly as possible within the terms of the administration's stewardship — Council has also accepted the

administration's assurance that the University has never lost an accreditation and will not lose continued accreditation for the Faculty of Engineering. The delegation felt that these assurances had been accepted far too easily and that the University has not and is not doing everything that should be done to correct the situation as quickly as possible.

At the end of the meeting each member of Council was given a document summarizing the delegation's presentation. The supporting appendices of data were stated to be not exhaustive or verified because of time constraint, but sources were stated. The delegation gave assurance that they would forward their views to the Editor of the Bulletin. The document ends:

"We therefore recommend the following course of action for Council and us:

(1) Send this presentation of new data to all members, with a statement of our new position in support of the C.A.B. report, and the need for immediate action.

(2) Meet the University of Manitoba administration and review their plan and timetable for action.

(3) Keep the membership updated as to progress and solicit their support in any actions."

The meeting ended with a mutual exchange of thanks for the interest and concern expressed.

When the visitors had departed Council debated the recommendations and made the following decisions:

1. The presentation will not be sent to all members because the data were admitted by its presenters to be not exhaustive. The difficulty of getting indisputably comparable figures has caused Council much grief. The presentation will, however, be available for consultation in the Association office or through the University Liaison Committee.

In response to what it believes the intent of part of the first recommendation to be, Council did move formally to accept the recommendation from the University Liaison Committee that Mr. Karras and Dr. Swift "be delegated to develop a comprehensive information statement on the funding of the Faculty of Engineering from 1969/70 to 1979/80. The statement is to include:

(a) Operating and Capital Budgets of the Faculty.

(b) Official Operating Budget trend curves and financial information from the University of Manitoba." The University through Mr. McQuade has offered to make all relevant data that it has available to our two representatives.

Council continues to believe that the publication of any of the incomplete and often disputed data it has without an accompanying analysis is potentially misleading to all concerned: those in the public at large, our membership and the students present and future.

As to the second part of the recommendation, there is no statement of a new position; Council has never waivered from complete support of the C.A.B. report.

2. Except in regard to the gathering of data, no immediate meeting with the University administration is planned. Council has accepted an invitation by Dr. Kuffel for A.P.E.M. representatives to meet with the steering commit-

tee of the "Faculty of Engineering Liaison with Industry." In addition, Council suggested that the Chairman of the University Liaison Committee, Paul Lowe, and I as President "meet with the Dean elect to determine what action by Council would be considered constructive."

3. Lastly, Council agreed that this report would be prepared for insertion, with perhaps other reports, in the next Bulletin for the information of members. RAJ (with grateful acknowledgement of help from JWJL.)

Council Meeting April, 1979

By J. Tchir, P. Eng.

A meeting of Council was held on Monday, April 9, 1979 at 3:30 p.m. in the Association premises. The agenda and minutes of the Council meeting of March 12 were approved quickly before the Council got down to business arising.

The first item of new business dealt with the funding of the University of Manitoba Faculty of Engineering. President Johnson reported on the meeting that representatives of the University of Manitoba Engineers' Alumni Association held with President Campbell on March 23, 1979.

It was agreed by all present that there should be an appointment of a sub-committee of Council on supplementary funding with the objective of procuring funds from the private sector to aid the Faculty of Engineering. Council had a brain-storming session to come up with ways to raise the needed money but quickly ruled out bingo games, raffles, casinos and soliciting.

Now came the time to discuss what role the sub-committee would play, whether leading or supportive, in the obtaining of the funds. Motions were moved and removed by various Council members until the motions turned into commotions.

This reporter is sure that the N.H.L. - W.H.A. lawyers had an easier time with the wording of the merger documents than Council had proposing what should be proposed. Sounds confusing? You shouldn't have been there.

FINALLY it was moved by Mr. Isaak and seconded by Mr. Jardine that Council designate a group of 3 members to invite representatives of the University of Manitoba Engineering Alumni Association, the industry Ad-Hoc Group, the University Liaison Committee and other interested groups to form a special task force to further the intention of the Council's resolution. It was agreed that Messrs. Jardine, Isaak and Spencer should be Council's representatives.

With the items of accounts, licences, engineering graduates, transfers, registrations and reinstatements out of the way, Council agreed to call a special meeting of the Association to seek adoption of a Guide for the Engagement of Consulting Professional Engineering Services.

A motion was carried to receive J.L. Charles' book presented to the Association with enthusiastic appreciation. It was agreed that the Association should present copies of this book to recipients of the Canada Northland Development Award, if more copies are available.

It was also moved and carried that $200.00 be donated to the Dean's Engineering Library Account in recognition of Dean Wedepohl's contribution to the Engineering Profession and to

the academic community in Manitoba.

Other items dealt with included the Practice and Ethics Committee report of March 29, 1979, the agenda for the C.P.E. meeting, admission standards, Ontario Professional Organizations Committee proposals, and Public Relations Committee activities.

Prior to adjournment, President Johnson advised that a New Members' reception would be held in June at the Wildewood Club.

Council Meeting May 14, 1979

With a complete group the Council meeting got underway at 3:30 p.m. sharp. Everyone seemed to be well informed as to what would proceed, except the Council reporter.

Things began in a normal fashion by approval of the agenda, the acceptance of the minutes of the previous meeting, acceptance of the statement of the monthly accounts, and the approval of all applications for licences, transfers, registrations, etc.

A brief amount of discussion ensued regarding the formation of the Canadian Society of Professional Engineers (CSPE). As we already have a Canadian Council of Professional Engineers (CCPE) there appears little need for another group of such close nature. Council decided to stand opposed to the formation of the CSPE.

After presentation of the Second Quarter Financial and Membership statements it was noted that financially receipts were up, expenditures were up, with a net result of plus 1700 dollars. In membership the rate of increase of Professional Engineers in the Province of Manitoba is steadily declining. Both statements were read and received unanimously.

As has been the case in many of the previous Council meetings the main course was discussion revolving around the problem of maintaining accreditation of the University of Manitoba Engineering faculty. Before I attempt to present my interpretation of the proceedings I will list the other items on the agenda covered at this meeting which may be of interest.

The Executive/ Finance committee recommended the addition of another staff member in the APEM office to help cover the work load. When the matter of funding was brought up Council agreed that this could be accomplished by an increase in annual dues, hypothetically ten dollars. Council moved and carried a motion to support the actions of the Executive/ Finance committee.

Ken Jardine volunteered to be an additional liaison Councilor to attend Salary Schedule Committee meetings.

Council adopted a policy whereby they see it favourable to have a member of the ACEM on the fee committee which sets fees and fee structures to be used by consulting engineers.

Nomination of members of the APEM to screen applicants of the Premier's Awards was discussed. Since the persons nominated have not been contacted their names will not be released. A member of the CCPE has also been nominated as a non-Manitoban to sit on the same Board.

Under the heading Incorporation of Legal Firms in Manitoba, discussion was carried out as to whether or not it was good company policy to have a majority of their Board of Directors as members of the profession their firm represents. It was concluded that the APEM would first feel out the other professional organizations for com-

ments before they would speak up on this topic.

At this point lunch was served, the main course being sandwiches. Fortification was necessary, as the next main course was a meeting and discussion with the "Grass Roots Group" regarding interpretation of the accreditation problem at the University of Manitoba, and presentation of a line of action to solve the same.

Being involved with this for the first time, one of my own reactions was that there seems to be a difficulty in isolating the problem, attaching a handle to it, and developing a line of attack to provide a solution.

The stand of the APEM council at this time is, firstly, to send one or more of its members to the meetings of the Industry Support Committee and secondly, to offer any possible assistance to the new incoming Engineering Faculty Dean. The APEM Council feels it would be pointless to delve into the past history problems of the faculty and become involved with financial dealings of the University.

The "Grass Roots Group" on the other hand feels that additional action is necessary to solve the problem. The "Grass Roots Group" is formed by a number of "concerned" professional engineers. They have researched the problem from a financial point of view and offer the following recommendations to the APEM council in hopes of obtaining a solution.

1. Send copies of the findings of the "Grass Roots Group" to all APEM members with a statement of the position in support of the CAB, (Canadian Accreditation Board) report, and the need for immediate action.
2. Meet with the University of Manitoba Administration and review the plan and timetable for action regarding shifting of funds to the Engineering Faculty.
3. Keep the APEM members updated as to progress and solicit their support in any actions.

Much discussion continued back and forth, a large portion of which became repetitive. At 9:15 p.m. I had to leave the meeting and the two groups were still at a face-off. Further updating on the progress of this situation will be a part of the content of future Council reportings. G.R.A.

The Federal Election

By the time you read this, the Federal Election will be an accomplished fact. The results will have been discussed, argued, and dissected by all the news media to such a degree that you will consider yourself an expert on national politics. There is nothing further to be gained by my repeating what has already been said over and over again by those who consider themselves more learned on the subject. Therefore, this article will be limited to a frank discussion on the ability of the Bulletin Committee to predict the outcome of the election.

Approximately one year ago, during a regular committee meeting, the members held an in-depth discussion on the state of the country and the possibility of an election taking place in the near future. Our first prediction was a little out. We then proceeded to give our individual party standing predictions and to calculate the overall trend of the committee. It should be noted here that none of the committee was aware of redistribution and the increase of seats from 265 to 282. Nevertheless, unencumbered by a profusion of knowledge on the subject our predictions — mathematically cor-

rected for redistribution — were as follows:

Progressive Conservative	120
Liberal	117
New Democrat	34
Other	11

Individually, the predictions were even worse than this, although the P.C. Minority Government was correctly called by the large majority of the committee. After a lengthy calculation it was finally decided that Jim Hobbs came closest to calling the actual result and was suitably rewarded by a substantial (?) purse.

After due consideration of its performance, the Bulletin Committee has decided to resist any future temptation to get into the political prediction game. At least until the next election. — L.F.S.

"Professional Status" — Myth or Reality?

By F.A. Jost, P.Eng.

When the A.P.E.M. was founded in 1920 by Special Act of the Manitoba Legislature to administer the terms of the Engineering Profession Act, engineers were faced with an immediate dilemma: "How to achieve public recognition of their Professional Status." This was not just an ego- expansion, but rather a necessity, if engineers were to carry out their functions effectively within the community. It relates to the degree of credibility attached by the government or the community, to statements or reports issued by an individual Professional Engineer or by the Association on behalf of all its members.

Apparently Professional Engineers from an earlier era could cope more effectively with this problem, not because they were necessarily better, but because the circumstances under which they had to perform their functions were less complicated. This was the era of the "builders", mainly dominated by the discipline of civil and mechanical engineering. It was the proud period of the capable individual, receiving recognition from the community for the extensive visible results of his or her engineering efforts.

However, times have changed and we are now experiencing a period of "innovation and optimization", with the team approach of solving complex technical problems through application of multi-disciplinary engineering skills. This team or group approach made it necessary for engineers to adapt from individual performers to team workers and this they have accomplished very well, but it also posed an old problem — "recognition by society as a professional group." From a community standpoint, it is very difficult to single out engineers who contribute to the advancement of our society, since they all function behind the facade of corporate names. This anonymity forms the major cause for the Professional Engineer's identity crisis. No longer does our society appear to associate the engineering profession with significant improvements in the quality of life in general, although engineers throughout the ages have been responsible for the progress of mankind.

It is generally assumed that the public is incapable of judging the quality of the professional services it receives because it lacks the requisite expertise to make competent evaluative judgments. A vulnerable public is in need of assurance, therefore, that the enlistment of professional services will

not bring it harm. In short, it is crucial to the interests of a profession that it establish a foundation for the public's trust.

One way of gaining the public trust and strengthening its community orientation is by formulating and adopting a code of conduct or Code of Ethics. In general terms, a Code of Ethics purports to define standards of ethical and professional performance, the duties and responsiblities associated with it and the ideals to which members of the profession should aspire. In most Codes of Ethics, it is not always easy to distinguish the minimum duties a professional is expected to maintain from the ideals to which it is hoped every professional is committed. By formally stating professional responsibilities and ideals, a profession states to the public and its membership a framework for good professional behaviour. A Code of Ethics can thus provide a means by which professional behaviour can be evaluated, since it is a recommended behavioural pattern based on moral value judgments and choices.

The Engineering Profession, however, also has to deal with further complications in ethical conduct because this is the only profession which does not deal directly with the public in contrast with the professions of medicine and law, for example. For this reason, there always exists a business interface, complete with its own set of behavioural rules or ethics. Engineers find this very confusing, since business ethics and professional ethics cover two entirely different aspects. Business ethics are based on principles of law and as such provide a defendable position for an engineer as long as "a reasonable degree of professional care and skill and a reasonable degree of fairness have been exercised." Professional ethics on the other hand are a matter of conscience and carry with them the obligation to commit oneself to an expert engineering judgment regardless of commercial or political re- ributions. These two codes are ob- ously not compatible at first sight and must require further study in each case. The big question is: "Which presides over the other in case of conflict?"

Every Professional Engineer, by accepting the Code of Ethics affecting the practice of engineering as his/her only guide to professional conduct, could eliminate personal doubts or confusion.

Unfortunately, many engineers have never bothered to review the Code of Ethics or even considered them seriously. When applying for Association membership, one is now required to write a profession examin- tion which covers the contents of t- Engineering Profession Act and also touches on the Code of Ethics, but does not explicitly deal with all aspects. This must create the impression that it really does not matter whether one complies or not. Enforcing the Code of Ethics poses another problem, resulting from the cumbersome manner in which this enforcement has to be carried out, thereby sustaining its low profile.

Another impediment to effective enforcement is the fact that more than ninety percent of all engineers are salaried employees of business, industry or government; hence, the primary force that structures and directs th- activities issues from the demands placed on them by their employers. Because of this, professional engineering societies can claim very little influence over the conduct of most practising engineers. The result is that not only are the codes generally ignored,

but also little can be done to require adherence to them.

This problem suggests that the Code of Ethics is not in itself fully adequate for dealing with the ethical problems facing the practising engineer. There is, therefore, a need to supplement the Code in various ways in order to assure that engineers act in ethically responsible ways. It can be argued that engineers cannot make a real commitment to professional ethics unless they are accorded certain fundamental rights; rights that are unfortunately neither stressed nor in some cases recognized by the existing Code of Ethics. As mentioned before, most practising engineers are salaried employees and no matter how dedicated they may wish to be to the standards of good professional practice, if their employer's demands result in undermining these values, the only available alternative is to refuse to satisfy these demands and face the threat of loss of employment. Thus, the practising engineer is not only in need of support and protection from reprisals, but the fundamental rights of the engineer must be recognized by the employer.

Engineers, therefore, have to support engineering management that works to enhance the status and the standards of the engineering profession.

They also have to participate in the selection of effective leaders for our Professional Association, rather than to continue the pursuit of social benefits as a primary interest. It is high time that engineers and their professional societies addressed the issued affecting engineers and worked to enhance the standards and status of the engineering profession.

They should also understand how the political process works in reality, as opposed to how it is theoretically supposed to work or how engineers would like it to work.

Professionals as a group are viewed by politicians as a complication of the political scene and are, therefore, treated with disdain. In our Province, we have recently experienced some rather disturbing labour legislation regarding the inclusion of Professional Engineers in a union. In addition, the Minister of Labour usurped the deterministic power to decide who is, or who is not, a Professional Engineer, thereby overruling the self-governing rights of the Association under the Act.

The Council of our Association is very much aware of all aspects affecting Professional Engineers and has commenced with action to improve our internal guidelines. Both the Legislative Committee and the Practice and Ethics Committee have been instructed to review the Engineering Profession Act and the Code of Ethics respectively, so that they will reflect the requirements of our present day society. Amendments to the Act will require approval of the Legislature and in time a presentation will be made for this purpose.

It is now up to the individual to conduct him/herself in an ethical manner so that he/she merits the confidence of colleagues, employers, clients and the public. This commands intestinal fortitude because it may require taking a stand at any time during one's career on the basis of professional integrity, in order to assert the right of technical challenge against the view that employee engineers must follow orders regardless of the consequences to the public.

Accepting the professional attitude will also mean a dedication to take part in the governing process by speaking out on matters of principal interest to the community, in particular those issues involving engineering decisions and the quality of engineering education. It also means discarding the view that engineers as a group should blindly practise engineering without professional concern over the critical social issues involved in their work.

"Professional Status" — Myth or Reality? — The choice is ours.

* * *

Think that day lost whose low descending sun
Views from thy hand no worthy action done. — Anon (about 1690)

Fools rush in where angels fear to tread. — Pope

Welter Wilts

Here in Argentina the month of May is equivalent to Winnipeg's November, but is not as cold of course. It was a chilly 7°C the other morning and the humidity was 98%. It's surprising how much moisture collects on your car when you leave it outside overnight and the humidity is in the 90's. In the afternoon the humidity drops to about 50%, but the temperature today was 22°C. With all that humidity it's not necessary to water the grass, because the morning dew is sufficient. The rain is still keeping away, and all the vegetation is still fresh and green, except for some of the deciduous trees which are starting to lose their leaves.

We've been here 18 months now and it will be nice to get back to Winnipeg by Christmas. My two year term is up in November.

Inflation in still quite rampant, in

Ed Welter and Ears
(after bragging about his golf)

Buenos Aires especially. The consumer price index has gone up 40% since January 1, but we get more for Canadian dollars. It's up to 1065 pesos to the Canadian dollar. That's an effective rise of 12% in cost of living in four months. And I know I used to dread the 6-8% per year in Canada. It is quite usual now for many Argentine employees to give their employees a 30% pay raise every three months to offset some of the inflation.

Despite the high rate of inflation, the economy ministry is happy with their U.S. $9 billion trade surplus with different countries in the world. Argentina is nearly self-sufficient in oil and natural gas, but lacks good coal supplies. Its cement, aggregate and ceramic industries are well developed. On the other hand, the steel industry is small for a country of 26,000,000 people. Mining is limited on account of restrictive policies regarding foreign investment. Good building lumber is in short supply — I can't ever remember seeing a sheet of ¾" plywood. Cars and trucks are made here (same models for many years) but GM pulled

out a few months ago. Ford, Fiat and Peugeot are still here with small production. A 6 cylinder Ford (Taurus model) sells for the equivalent of $25,000.00 U.S. dollars. A Fiat or Peugeot goes for about $20,000.00 U.S. dollars. You can pay for it over a period of 50 months if you like!

A panoramic, silhouetted view of Buenos Aries city features many-storied apartment buildings and offices. Most of these buildings are of massive concrete, because of the high price and shortage of structural steel. There is a lot of construction going on now in Buenos Aires. Some of the buildings seem to go up fast while others go at a snail's pace.

There are many problems with electric services and the phone system here. Blackouts are common; yesterday in an area of the city we were without power for five hours. This morning's paper said to expect the same for the next few weeks while equipment is being repaired. I shall not discuss the phone system, because I get frustrated even thinking about dialing a number.

Mrs. Ed Welter at Fruit Stand

Color television is still due manana. It is being advertised on one channel, so it should be here — manana. Bonanza and Get Smart are the rage! I pick up the latest Canadian news every night at 10:00 p.m. from CBC Montreal on my YAESU short wave radio. We expect to hear the election results on May 22 during a 4-5 hour election coverage after the polls close — and I'm making no predictions at the outcome.

The Red River flooding was heard over my radio and I guess it's just about over now.

I am enclosing a picture of the huge split leaf philodendron in our back garden. Those "ears" are Phil's blossoms. I didn't realize they bloomed!

With fruit coming into season now, the prices are dropping on oranges, apples, pears, grapefruit, lemons and most vegetables. We usually buy at least 100 oranges, squeeze them and freeze the juice as necessary. The fruit is grown on the many islands in the Parana River, upstream from Buenos Aires, and come in by boatloads to local docks to be sold (see the other picture), that's my wife, not boat captain! Those big red apples in the baskets in the boat are really delicious.

I'm getting writer's cramp again! Hope the golf tournament at Elmhurst is a success. Next year the "Birdie King" will be back!

Nuclear Accidents

By F.E. Stock, P. Eng.

Now that the 3-mile Island tragedy is behind us, we can look with objectivity at the causes, so far as they are known, with the object of preventing a recurrence.

Very little factual information was issued, with the result that the news

media published material based on their own speculation. You may, therefore, appreciate this account obtained at the time from the Atomic Energy Control Board, of the facts which have been established by the U.S. Nuclear Regulatory Commission.

The pressurized water reactor takes the form of a pressure vessel which contains the nuclear fuel and the water which serves both as moderator and coolant. This water is circulated to boilers by pumps and this is called the primary circuit. The boilers simply transfer the heat to other water, which boils, and the steam drives the turbines. The water which is boiled is in the secondary circuit. The reactor vessel and boilers are all inside the reactor building, which is designed as a pressure vessel to contain the steam and water which would escape if either the primary or secondary circuits failed.

The events which led to the accident started at 04:00 on Wednesday, 1979 03 28. A man was servicing an auxiliary water treatment system which has some air operated valves. He shut off the air, which also shut off the air to the main feed water valves in the secondary circuit of the boilers. This meant that the boilers boiled dry. Usually, when boilers run dry, there is a risk of explosion because the hot flames overheat the metal. In a nuclear boiler, there is not this risk because the temperature cannot rise above that of the water in the primary circuit. So all that happened was that the temperature and pressure in the primary circuit started to rise. The increasing temperature caused an automatic shut down of the reactor. The increasing pressure caused a safety valve to blow, but it would not reseat, and this led to the water in the primary circuit being released to the floor of the reactor building.

The loss of pressure caused the emergency core cooling system to pour water on to the reactor core automatically. Someone shut it off, which resulted in the reactor core overheating and the fuel melting down. Fission products, which are highly radioactive, then escaped through the stuck safety valve into the water on the floor of the reactor building. At this stage, there was no escape of radioactivity. It was all contained in the reactor building.

At the bottom of the reactor building is a small sump pump whose job is to pump any accumulated water out to a delay tank outside the building. Nobody knew it was running. It pumped the radioactive liquid out of the building, filled the tank, which then overflowed, spilling the radioactive liquid on the ground.

Following the accident, it was difficult to flood the core with cooling water against the pressure of the gases trapped in the pressure vessel. These gases are produced when water separates into hydrogen and oxygen.

To summarize, the accident involved one mechanical malfunction, that the safety valve stuck open. It also involved two human errors, that the air and the emergency core cooling were both shut off. After all these events, the reactor core was ruined, but no radio activity had escaped. It was the running sump pump which bypassed the containment of the reactor building. Any such pump must have a device to monitor the radioactivity of the liquid, and operate an alarm. It is not yet known why this pump was running, and why the operator was unaware of it.

The escape of the radioactive liquid

caused a build up of radioactivity to a maximum of 20 mrem per hour. This was in a local area next to the station boundary, and means that if anyone was living there they would receive radiation up to the legal limit for a year in about a day. This level of radiation would die away rapidly by natural decay.

Operating a nuclear power station is a matter of the interaction of humans with process equipment. What are now perceived as human errors were no doubt made by responsible people with what at the time were good reasons. The enquiry will establish these and where necessary the design, operating procedures, and operator training can be adjusted to prevent a recurrence.

The incident, tragic as it was, does illustrate an important point which is common to the Windscale incident. That is, that if accidents do occur, local emergency measures organizations go into action to mitigate the effects. Analyses such as the Rasmussen report do not, I believe, take credit for this, and as a result forecast large numbers of deaths from immediate and delayed radiation effects. The result is that action is taken to prevent people receiving radiation above the legal limits. There have been no reports of any deaths or problems due to radiation at 3-mile Island. The legal limits are set by the ICRP and its predecessors, which have been effective in regulating permissible radiation dosages since 1930.

Endorsation

Would the Mining Engineer who knows there is no such word as "endorsation" in Oxford or Webster, and that the correct word is "endorsement" please identify himself to the Bulletin Committee so he may be recruited. Meanwhile, congratulations!

However, in defence of the author who used the word, we wish to point out that Funk and Wagnell does show the word "endorsation" as a "Canadianism." But the author and the Bulletin Committee rely on Oxford and Webster, so the defence is a flimsy one and we stand corrected.

Continuing Competence

Overheard at a University Liaison Committee Meeting: "Continuing competence assumes it already exists."

Modern Noahs

During the recent flood Manitoba's bridge Engineers were by no means idle. One might have assumed that they would be temporarily out of work while their bridges were under water. Not so. They are in charge of the movement of animals to dry land during floods. So they were manning the barges, and perhaps even swabbing the decks in between trips. Initially Walter Saltzberg was directing this operation from his office. However, he decided an on-the-site appearance was exigent the day he heard what had happened to one of his crew. Walter's delegate had barged a farm lady and all her pigs to dry land. The lady was so ecstatic that all her pigs were saved she endeavoured to land a kiss on the barge operator. He does not have Walter's aplomb and almost fell off the barge into the drink. On hearing of this operation Walter decided that someone with broader experience was needed on the scene and a little "field work" was in order.

LETTERS

On Metric

The Editor

One detects a note of irony in your article, "The Election and the Midgets." One can also understand and sympathize with the feelings of frustration with politicians as a class and government. Probably the main defence that can be offered on behalf of both, were one to be so minded, is that politicians, however difficult to credit, are human and that government is a human institution.

The theory regarding a seeming high correlation between the height and the profession of a person interested me, strangely. I have known some short engineers. Seemingly, there appeared to be no hindrance to their competence as a result of their lack of physical stature. On the other hand, one can recall some politicians who were of unusual stature — physically — who appeared to have done pretty well in their "trade." Of course, there are exceptions to all rules. In any case, I trust, that having written that little piece, S.J.A. experienced at least a partial feeling of relief. There are naturally other ways of working off the tensions produced by a sudden infusion of adrenalin into the system, such as jogging, breaking your golf club when it refuses to carry out your wishes, admonishing Junior for his or her poor scholastic performance when weighed, for instance, against your own, etc.

In writing, I had what is known in psychological circles as an "ulterior motive." The motive in this case is beneficially inspired. It is intended to achieve a correct usage of the symbols in the International System of Units (SI for short), commonly known as the "metric system". I refer, of course, to the fifth line of the second paragraph. There are two basic rules in "writing metric" which apply here.

1. The singular and plural forms of a metric symbol are exactly identical. Thus, the symbol kg stands for either one kilogram or more than one kilogram.

2. A period does not follow a metric symbol, unless the latter appears at the end of a sentence.

Thus, a person (male) of average height may be described as being 170 cm in height. I trust that S.J.A. will not be offended by having these two basic rules brought to his attention.

Yours sincerely,
P. Shane, P. Eng.

1980 Premier's Awards

The Editor
Dear Sir:

Thank you for the article you inserted in the April issue of the Bulletin. Unfortunately the application form which was inserted with the Bulletin, contained an incorrect description of Engineering Design Categories. Would you please insert an abstract of the following information in your next bulletin.

"The Notice of Intent Application Form which accompanied the April issue of the Bulletin did not show all the possible categories. APEM member wishing to submit applications for categories not shown on the form should use a heading 'others'."

"The 1980 Premier's Awards presentation will now take place on March 17, 1980 at the Centennial Concert Hall, and the Museum of Man and Nature. Finalists in the

competition will be able to display their exhibit in the unused Parkland's exhibit. The Museum also has excellent audio-visual facilities and lighting. The Manitoba Design Institute will have good media coverage of the event and we can gain good public relations exposure of Manitoba Engineering Expertise."

"Any member of the APEM requiring additional information about the Premier's Awards and exhibits space can contact Mr. George Radke at the Manitoba Design Institute (telephone 944-2451)."

W.P. Wolfe, P. Eng.
Public Relations Committee

Objections

The Editor
Dear Sir:

Attached hereto is a copy of my letter to the Association regarding fees for membership in the Association. Would you please publish the letter in its entirety. No long explanations for taking this position are given because of space limitations imposed by your previously-stated policy with respect to other long letters I have sent to the Editor in the past.

However, one point might be made and that is that, to my knowledge, no regulation or By-Law has ever been passed by the Association permitting the C.C.P.E. assessment.

Any member who attended the last annual meeting will be aware of my objections to the entrenched and righteous position taken by your executive on this question.

Yours truly,
G.A. De Pauw, P. Eng.

"Mr. T.W. Algeo, P. Eng.,
Registrar
Dear Sir:

Re: Attached Invoice #1701

Returned herewith is the above Invoice covering annual dues for membership in your Association.

Since I have knowledge that part of the amount of $60.00 is to pay for an annual assessment towards the support of the Canadian Council of Professional Engineers, an organization which I do not wish to support in principle, and since there is no law which says I must pay C.C.P.E. assessment in order to obtain a licence to practise "Engineering" in Manitoba and, furthermore, in that I have never been required to seal my reports or designs by my employer, or anyone else for that matter, and in that I have constantly received unsealed reports and plans prepared by other practising engineers (registered and unregistered) all through my activity during the past thirty years as a practising engineer, I have concluded that membership in your Association is not meaningful and that membership is unnecessary to perform my duties as Chief Bridge Engineer in the Province of Manitoba.

Furthermore, the Association's unwillingness or inability to enforce the "Engineering Profession Act" makes continued financial support of your Association to be an exercise of false representation of fact with respect to the public, that same public we pretend to protect by the very existence of this ineffective Association.

Yours truly,
G.A. De Pauw, P. Eng."

Ed. Note: At the request of Mr. De Pauw the above letter was referred to Council and considered by Council at its meeting of April 9, 1979. A lengthy

letter had been sent to Mr. De Pauw prior to the meeting.

Computerized Information Retrieval Services, Part II

This is a follow-up of the article that appeared in the Bulletin of the APEM (April 1979, p. 15). In order to give a better understanding of the machine readable bibliographic data bases, the contents of a *few selected* data bases which are of interest to the professional engineers are described briefly.

COMPENDEX, 1970 — present, approximately 700,000 citations, monthly updates (Engineering Index, Inc.)

Corresponds to *Engineering Index Monthly*. Covers civil- environmental-geological engineering; mining- metals- petroleum- fuel engineering; mechanical- automotive- nuclear- aerospace engineering; electrical- electronics-control engineering; chemical agricultural-food engineering; and industrial engineering management, mathematics, physics, and instruments, including approximately 1500 serials and over 900 monographic publications.

ENERGYLINE, 1971 - present, approximately 20,000 citations, bimonthly updates (Environment Information Center, Inc.)

Comprehensive coverage of over 200 core journals and selected coverage of 2,000 other journals, as well as reports and surveys, monographs, conference proceedings, irregular serials, and newspaper articles. Subject-area coverage includes energy economics; U.S. policy and planning; international political and economic issues; research and development; resources and reserves; environmental impact; electric power transmission and storage; fuel production; fuel transport; nuclear power; and industrial, transportation, and residential consumption.

INSPEC, 1969 — present, 1,160,000 citations, monthly updates (The Institution of Electrical Engineers, England)

Corresponds to the printed *Physics Abstracts, Electrical and Electronics Abstracts,* and *Computer and Control Abstracts*. It provides worldwide coverage of the literature in physics, electrical, electronics, computer and control engineering. In addition to approximately 2,000 journals regularly scanned (over 200 of these are abstracted completely), the data base includes conference proceedings, technical reports, books and patents.

ISMEC, 1973 — present, 82,500 citations, monthly updates (Data Courier, Inc., Louisville, KY)

ISMEC (Information Service in Mechanical Engineering) indexes significant articles in all aspects of mechanical engineering, production engineering, and engineering management from approximately 250 journals published throughout the world. In addition, books, reports, and conference proceedings are indexed. The primary emphasis is on comprehensive coverage of leading international journals and conferences on mechanical engineering subjects. The principal areas covered are mechanical, nuclear, electrical, electronic, civil, optical, medical and industrial process engineering; mechanics; production processes, energy and

power; transport and handling; and applications of mechanical engineering.

NTIS, 1964 — present, 695,000 citations, biweekly updates (National Technical Information Service, NTIS, U.S. Department of Commerce)

Broad and cross-disciplinary file containing citations to U.S. government-sponsored research and development technical reports from over 200 Federal agencies and some reprints, federally-sponsored translations, and foreign-language reports in areas of major technical interest. Multi-disciplinary scope includes aeronautics; agriculture; astronomy and astrophysics; behavioral/ social sciences; biological and medical sciences; chemistry; earth sciences; oceanography; electronics; engineering; energy; materials; mathematical sciences; military sciences; communications; space technology. Corresponds to *Weekly Government Abstracts* and semi-monthly *Government Reports Announcements*.

SAE ABSTRACTS, 1965 — present, approximately 12,000 citations, quarterly updates, (Society of Automotive Engineers, Inc.)

Worldwide coverage of papers concerned with self-propelled vehicles gathered from industry, government and academic sectors as well as research and private organizations. Subject coverage includes aircraft, missiles and spacecraft, ground support equipment, passenger cars, military equipment, aircraft propulsion, electric vehicles, energy conversion, fuels and lubricants, manufacturing and production, transportation systems, emissions, safety, noise, management, testing and instrumentation.

There are many more data bases covering all subjects. If you would like to know what data bases are available in the field of your interest, please contact Y. Cho, Engineering Library, University of Manitoba, Winnipeg, Manitoba (204-474-9445).

Fun and Games at the Mail Desk

Merely opening the mail that comes in from Professional Engineers can be a very interesting occupation, particularly at a time when engineers have been sent forms to fill in. Not everyone knows which name is the surname. There are those who are born in B.Sc. C.E. and who graduated from Boissevain, Manitoba. On the most recent roster form one Engineer misspelled his surname. Another one changed the first initial of his second name.

One member brightened our day considerably by announcing on the form that he was "Retired" and under Occupation he put "Husband."

One member returned his roster form at the time the postage was increased and his letter came 6c postage due. A couple of days later, with no nudging from the staff, he remitted the 6c.

A member, who shall remain nameless, sent in a lock of hair with the remittance for his fees. The girls drew lots — it is not yet clear whether this was for the lock or the engineer.

Before Jean Claude Parrot was sentenced to the pokey resulting in more slow-downs and working to rule, two letters from Ontario were a month in transit.

And then there was the letter addressed to the Bulletin Committee, commencing with "Dear Sir, Madam or It." It's enough to make anyone forget his surname. — A.J.S.

The Modern Canadian Saga of Red Riding Hood

(From The Hard Hat)

Once upon a time there lived a little girl called Red Riding Hood. One day her mother asked her to take a basket of fruit to her grandmother who had been ill and who lived alone in a cottage in a forest.

It happened that day that a wolf was lurking in nearby bushes and overheard the conversation. He decided to take a short-cut to Grandma's house and intercept the basket of goodies for himself.

The wolf arrived first and made advances to Grandma, which she resisted. He then killed Grandma and ate her. Then he dressed himself in grandmother's nightgown and jumped into bed to await the arrival of Red Riding Hood.

When Red Riding Hood arrived, the wolf made overtures to the girl and tried to grab her. The terrified child ran screaming from the cottage. A woodcutter working nearby heard the cries, rushed to the rescue and killed the wolf with his axe. Red Riding Hood was saved.

The townspeople, when they learned of the rescue, converged on the scene and proclaimed the woodcutter a hero. However, at the inquest certain facts emerged.

☐ The wolf, prior to his execution, had not been advised of his rights.

☐ The woodcutter had made no warnings swings before striking the fatal blow and had used unreasonable force.

☐ Representatives of the Civil Liberties Union stressed the fact that, although the killing and eating of Grandma may have been in bad taste, it is the nature of wolves to do so and, because he was merely "doing his thing", he did not deserve the death penalty. It was also determined that he was of a sub-species which was endangered.

Further, the CLU lawyers contended that killing Grandma could be construed as self-defence, inasmuch as the wolf's intent was to "make love, not war", and it can be reasonably assumed that Grandma resisted and might, given the opportunity, have killed him. Also, an elderly neighbour testified that Grandma had occasional male visitors and may have behaved in a seductive manner.

☐ The Society for the Prevention of Cruelty to Animals submitted that killing the wolf with an axe was cruel beyond description and the woodcutter should have adopted a more humane process.

☐ The Canadian Committee for the Complete Metrification of Thoughts and Ideas contended the axe was illegal, since the weight of the head was stamped as "2.2 lbs. net weight," instead of "1 kg net mass."

☐ A witness from the Bilingualism Brings Canadians Together Foundation testified Red Riding Hood had been warned by the sign "Prenez garde des loups," ("After all, if Ms. Hood had been walking the other way, she would have seen the other side of the sign saying, "Watch out for the wolves").

Based on these considerations it was concluded that the woodcutter was guilty of unaggravated assault with a deadly weapon and was so indicted, arrested, arraigned, convicted, and sentenced to twenty years without possibility of parole.

The night following the sentencing, the woodcutter's cottage was burned to the ground and one year from the date of the "Incident at Grandma's"

her cottage was dedicated as a shrine for the wolf who had bled and died there.

— Author Unknown

Income Tax Quiz

Gail, Pamela and Paula Isaak (with a little help from Councillor Rudy) submitted the only winning entry in our Income Tax Quiz. Small wonder that Rudy always seems to be on his toes, surrounded as he is by three such smart girls. Our congratulations to the whole family.

CLUES

1. Earned Income
2. Agent
3. Deduction
4. Audit
5. Penalty
6. Dependent
7. Appeal
8. Sheltered Income
9. I.R.S.
10. 4 - 15
11. Taxable
12. Debit
13. Loophole
14. Tax
15. Income Averaging
16. Deductible
17. Extension
18. Pay
19. File
20. 1040
21. Consultant
22. Estimated
23. Refund
24. Taxing

Urned Income
A gent
The duck shun
Spare
Penal tee
The pendant
A peel
Sheltered Income
Iris
Forum minus fifteen
Tax Able
Deb bit
Loo pole
Tacks
Income averaging
The duck table
Eggs tension
Pay
File
Ten forty
Aunt of con sultan
Spare
Reef fund
Tax sing

ANSWERS

$\frac{8}{2}$ Dry money
$\frac{17}{1}$ A man
$\frac{24}{7}$ Unborn chicken stress
$\frac{14}{20}$ Money in a jar
$\frac{18}{16}$ Music at IRS party
$\frac{12}{13}$ Apple cover
$\frac{9}{11}$ Keeps the carpet in place
$\frac{15}{6}$ CB O.K. times 10
$\frac{23}{3}$ Thru the nose
$\frac{19}{10}$ Where Daffy eats
$\frac{21}{5}$ Girl with teeth marks
— Long stick used in bathrooms
Necessary for vision
Collection from Cain's brother
Middle age spread
Diamond on a rope
Money for coral
Avoidance of web footed birds
Tool for prison escape
Adolescent who quits the game
Aunt of prisoner prince
Start of prison golf course

Moving?

Please let us have your change of address

Golf Day — 1979

by C.P.J. Kummen, P. Eng.

Well, the Sports Committee hit pay dirt again. Monday, May 28, 1979 — a beautiful sunny day, just enough wind to hold the bugs at bay, the temperature 25° to 28°.

Sports Committee Chairman, Al Bischoff and team, with Joan McKinley's invaluable assistance, started the Annual A.P.E.M. Golf Tournament shortly before 10:00 a.m. A magnificent gaggle of 110 golfers paraded past the first tee at Elmhurst. Marv McKay and his partners opened things in fine style with magnificent drives. The honour of the first mulligan shot from the first tee fell to Norm Lee, who quickly received sombre condolences from partners Al Bischoff and Landis Krause.

Merv Robinson and Carl Wiebe, the Keystone Cops from Carman, were appropriately attired for the occasion, Carl with his nondescript white hat, and Merv, straight off the farm in his fancy T-shirt and cowboy hat. The boys had a tragic tale to tell. It seems their intended partner, the inimitable Sean Kavanaugh, had intended to come in from Brandon on a mini-bike, but alas, while practising for the marathon ride, fell and bruised a rib or two. Ouch!

Paul Thompson's holding up his foursome now. Here comes Roger Mills, grimly determined to keep his game under control and maybe break 150 this year. He tees up the ball, addresses it squarely, fixing the ball with a trancelike gaze. He takes a picture-perfect backswing and — WOW — clobbers the ball with every last iota of strength, the force of his mighty swing spinning him in a complete circle. Easily the longest drive from the first tee today — all eyes scour the sky, it still hasn't come down . . . . I believe it was Norm Ulyatt who shattered the magnificence of that moment with "Hey, it's still there on the tee!!"

One unfortunate golfer named Charlie (who must remain anonymous because he suffered enough in playing alongside Bill Mackenzie) walloped a presentable drive off the 7th tee; his second shot flew squarely into a tree straight ahead of him and bounced 10 feet behind him; back he went — lined up and nailed the same offending tree a second time, the ball bouncing back to his tee shot he lined up again and drilled that self-same tree yet a third time, the ball returning to him like a well-trained retriever. At this point, witnesses are unable to clearly recall the exact manner in which Charlie finally by-passed the tree, although some slight-of-hand (or foot) is suspected.

The tenth tee at Elmhurst has traditionally offered the A.P.E.M. golfers a brief respite from the battle, a chance to pause briefly, savour a cold bottle of pop and a sandwich, topped off with a cookie or biscuit thoughtfully provided by Mrs. Dunklee, who normally posts herself at the tenth to pass on words of encouragement to golfers passing by. However, this year Mrs. Dunklee embarked on a quest for a treasure even more elusive than the golden fleece, (namely a new secretary who can both type **and** spell), and so this year there were only sandwiches and soft drinks on the tenth. Many golfers remarked that they certainly missed Mrs. Dunklee's cookie break at the mid-course mark.

On the 18th green, I watched a dazzling display by Sandy Gibb from woods to grass to sand to tree root to sand again and finally to green, so Vic Becker had time to tell me that 122 golfers registered this year, twelve of whom failed to turn out.

Other highlights on the 18th green: Rob Waddell, getting lots of practice with the sand wedge, allowed that after wallowing through all this sand, the 19th hole oasis looked mighty good; Jerry Kruk, finding all his luck at once, cranked a shot out of the rough grass to the left of the hole to within 12 feet of the pin then sidestepped into the bush and retrieved his tee shot from the 17th; Dave Oppenheimer, showing us how to do it, rolled in a 35 foot putt in his bare feet (his shoes having been lost on a wager?); and Merv Robinson, laying up an approach shot which bounced out of a bunker to land on the green.

The last weary golfer holed out at 7:00 p.m. and the Sports Committee worked feverishly to grind out the handicaps, total the scores and declare the winners, amid the kibitzing of President Dick Johnson, who wondered if the committee was using the new maths.

Prize winners were: Landon Cup for Low Gross — Don Mulder; Sullivan Cup — Tim Stratton for Low Net (both cups were presented by President Dick Johnson); 2nd Low Gross — Harold Wilson; 2nd Low Net — Bill Girling; 3rd Low Gross — Dave Oppenheimer; 3rd Low Net — Barry Andrews; Best Front Nine — John Haigmiester; Best Back Nine — Lorne Holden; Low Hidden Hole — Peter Kruselnicki; High Hidden Hole — Roy Houston. George Robson carded a 162 to qualify as Most Honest Golfer. That early trip to the Pro Shop for new pants did pan out for Paul Thompson, who takes the Worst Dressed Golfer honour. Longest Drive Event won by Marv McKay, in the first threesome, whose 220+ yard poke on the 17th hole stood unchallenged throughout the day. Closest to the Hole was won by Ken Fallis, whose tee shot on the 8th landed within 17 feet of the pin. Birdie winners included — Dave Oppenheimer and Peter Kruselnicki, each with two birds; Barry Andrews, Marv McKay, Eric Willms, Harold Wilson, Lorne Holden and Cy Cartwright.

The success of this event is largely attributable to the devotion and hard work of Sports Committee Chairman Al Bischoff and his capable crew of Landis Krause, Vick Becker, Arnold Permut and Alf Cornies. Ben Rogers took pictures. Negatives are now on sale in the office.

Prize donors were: Acres, Andison Equipment, Armco, Carcare, Dominion Bridge, Empire Iron, Inland Cement, Spantec and W.L. Wardrop & Associates.

Annual Meeting Asides

From 2500 Anecdotes for All Occasions

He can compress the most words into the smallest ideas better than any man I ever met. — Abraham Lincoln.

Wilton Lackaye was scheduled to speak late on the program at a banquet at which all the speakers had been brutally long-winded. The chairman introduced him saying, "Wilton Lackaye, the famous actor will now give his address." Lackaye faced the haggard audience and said, "Mr. Chairman, Ladies and Gentlemen, my address is the Lambs' Club, New York." He sat down and received a tremendous ovation.

Then there was the parson who, in the midst of an interminable sermon said, "I don't mind a bit having you look at your watches to see what time it is, but it really annoys me when you put them to your ears to see if they are still running."

Engineering's Strength and Challenge

F.C. (Ted) Turner, P. Eng. is the new President of The Canadian Council of Professional Engineers. A Civil Engineer, a native of Nova Scotia, he served as Dean of Acadia University's School of Engineering for seventeen years, until 1978.

In his address before the annual meeting of the C.C.P.E. Board of Directors Mr. Turner introduced a new twist to the interpretation of how the work of the engineer should be presented to the public. Some quotations from his address follow:

"There is much associated with the profession which deserves to be revealed, looked upon with pride, and supported both by engineers and others. Winds of change always blow. But the profession will easily withstand those generated by folly rather than reason if the public and its governments understand the workings and motivations of the Canadian engineering profession."

By virtue of the Professional Engineers Acts legislated by the Provincial Governments . . . "the Acts demand of the profession self-regulation and self-discipline, the maintenance of high competence in practice, advancement of engineering knowledge and adherence to a strict code of professional ethics. Engineers can be and are charged under this code of ethics, and can and do lose their right to practise as a result. A reading of any of the provincial engineering acts shows that engineering is indeed a serving profession, responsible for overseeing an extremely important segment of our technological society on behalf of government and citizenry. The profession has assumed this responsibility with integrity, determination and success without the expenditure of any public funds. . . .

"There are certain specific aspects of the profession's policies on mobility, standards of competence, education and manpower which should be mentioned. The profession has not artificially restricted the growth of its membership. Those who graduate from accredited engineering programs, meet the stated experience requirement and other minor requirements, and agree to abide by the Code of Ethics, become registered as Professional Engineers. Competence and integrity are the only restricting factors. The profession makes special efforts to encourage capable young Canadians to enter engineering and to ensure that there will be places for them in our Schools of Engineering. The profession seeks to ensure that those who gain the Professional Engineer credential will be widely respected in Canada and abroad.

"The dues of the 100,000 Professional Engineers in Canada finance the provincial and national operations outlined here. No government or public funds are expended in this work, which is carried out to protect the public and to advance Canada's technological base. About six million dollars is contributed to this work by the members of the profession through their dues. In this age of government handouts, engineers are justifiably proud of their professional self-determination and their contribution to the social fabric of Canada."

The new twist lies in the presenting of the dollar value of the contributions made by engineers in financing the efforts on behalf of a strong engineering profession. This work is important to Canadians at large, because without this strength and self regulation the present standard of living we enjoy could not be advanced or maintained.

E.A.S.

Engineer and Ritual

At the Council meeting in April Council passed a motion that it "interprets the term 'engineer' as used in the 'Ritual' as not being the same as the terms, 'P. Eng.', 'Engineer' and 'Registered Engineer' as used in the Engineering Profession Act. Council passed a further motion that the substance of the previous motion be communicated to the Senior Camp 8 Warden and that the Wardens be requested to ensure that the recipients of the "iron ring" at future ceremonies shall be those who expect shortly to be academically qualified for admission to the APEM and further that the distinction between membership in Camp 8 and membership in the APEM be made clear to the recipients at each meeting of the Camp."

Working to Rule

The latest group to pull off this caper were the Winnipeg police. Since working to rule always seems to imply that those involved will be doing considerably less than normal (and in the case of the post office "normal" is little enough) we are forced to the conclusion that there is something very wrong with the regular rules. The terminology is also suspect. "Working to rule" should not be a euphemism for "goofing off" as is now the case. "Working to rule" should imply doing a good honest day's work, and if there are rules they should require it, particularly where public money is involved. Anything less than this, particularly a deliberately calculated slow-down, should be called precisely what it is — slacking off. Or even robbery of the public purse. —S.J.A.

Report on May 24-25 CCPE Meeting in Fredericton, N.B.

Professor Glenn Morris of the University of Manitoba has been appointed Vice-Chairman of the Canadian Accreditation Board which continues its valuable work in reviewing the engineering education programs at Canadian universities.

The national committee on Consulting Practices and on Salaried Engineers are now standing committees, with well defined programs, budget and discussion topics annually defined by the Executive Committee.

CCPE is investigating the feasibility of providing examinations at fundamental and professional levels in place of the traditional use of a list of accredited programs for graduates of foreign engineering programs.

A.W.G./E.A.S.


SMOKING
IS
OUT
WHEN
JOHN
IS
ABOUT