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WINNIPEG, MANITOBA, JUNE, 1974

President's Message

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

I have just returned from Toronto where I acted as your observer at the Annual Meeting of the Canadian Council of Professional Engineers. Mr. Clyde McBain, as your appointed director, ably represented the Association's point of view at the very well conducted meeting at which Mr. Russ Hood was presiding.

Congratulations to the newly-appointed President, Mr. N. G. (Gilles) Tanguay, ing., who will succeed immediate past president Russ Hood for the next one year. We can look ahead with optimistic confidence under the leadership of Mr. N. G. (Gilles) Tanguay. His first public statement is evidence of President Tanguay's determination to speak up in favour of Engineering in Canada by Canadian Engineers.

The value of the Canadian Council of Professional Engineers to the supporting members of the constituent associations cannot be denied. There are many public issues which must be responded to on a national basis and often it is only by strong

national action that we as engineers can be effective. The combined effort of the Provincial Associations in opposing the misuse of the title "Engineer" by other national groups is a good example. The agenda included many items which are related to the general problems of carrying on the business of a national organization.

The problems associated with the Consulting Engineers practice seemed to dominate the meeting's deliberations and the concerns of the salaried engineer received little attention.

I still fail to understand why the majority of the Directors supported the existence of the National Committee on Consulting Practice, since the Consulting Practice is already well represented by the Association of Consulting Engineers of Canada itself and through the co-operative and joint action, properly negotiated and set out in a joint policy statement, between C.C.P.E. and A.C.E.C.

The acceptance of a very general definition of the practice of engineering by

the Directors (Manitoba voting against) is an example of being in favour of motherhood. The model definition approved by the Directors reads, in part, as follows:

"Engineering"

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

Without restricting the generality of the foregoing, the term, 'practice of engineering', within the intent of this Act, shall mean the provision of services for another as an employee or by contract; and such services shall include consultation, investigation, reporting, evaluation, planning, design, responsible supervision, management, research and development of engineering works and systems, and the teaching of advanced level engineering courses in any branch of engineering applicable to such works and systems; but does not include services by other technical personnel whose work is being carried out under the ultimate responsibility of a professional engineer (engineer)".

My main objection to the "model" definition is the statement that a person will not be considered as practising engineering where the ultimate responsibility remains with an engineer. But who is **ultimately** responsible?

Recently, the Association held a very well attended seminar on liability. It was made quite clear by the members on the panel, both the insurance representatives and legal representatives, that it is mandatory for the person practising engineering to be registered. Therefore, the definition of what is "Engineering Practice" is of utmost importance and must be specific for the protection of the individual as well as the public. Otherwise, we will all become entangled in a jungle of legal ifs and buts.

The new definition, if adopted, could open the way for design engineers to practice as technicians and technologists with some remotely involved engineer ultimately responsible. This approach I **cannot** accept. The individual directly involved in the design or supervision of construction of the work must remain the person responsible as the registered engineer. He or she is the only person having sufficient intimate knowledge to be responsible.

At a recent meeting with Engineers-In-Training and their "mentors" (a meeting

sponsored by your Association), it was of obvious value for a graduate Engineer to be registered as an Engineer-In-Training as soon as he has obtained suitable employment. By suitable employment, I mean that type of work in which the graduate Engineer will be gaining experience in the "practice of engineering". It was a general consensus that all graduate engineers so employed should be assigned at least one "mentor", even if the Engineer-In-Training is employed in a large engineering office. This would mean that the mentor would also satisfy himself that the candidate for registration is a person of good character, as well as a competent individual.

I urge all practising registered engineers to encourage new graduate engineers with whom they are in contact to register as "Engineer-In-Training".

We are actively opposing the use of the title "Power Engineer" in Bill 33 which has now received second reading in the Manitoba Legislature. Bill 33 deals with the certification of the power (steam) plant operators, often referred to as "stationary" engineers.

The question regarding the formation of a separate engineering organization to look after our own interests is now before the Council of this Association. This is such a vital issue which could affect every member of our Association that a referendum should be held to determine if a majority of the membership favours taking such a drastic step. I am not convinced that it is necessary to form a separate organization or "Council of Professional Engineers" to look after our own interests.

What do you think?



PRACTICE AND ETHICS

The Practice and Ethics Committee has recently dealt with a complaint that was received alleging that an engineer had committed a violation of the Code of Ethics by accepting an assignment on a project on which another engineer had initially been engaged. On investigation it was discovered that the original owner had gone bankrupt, and that it was a second owner who had retained the second engineer. The Committee found no breach of the Code of Ethics, and following the investigation decided that no further action be taken.

AND NOW THE GOOD NEWS —

We are pleased to report that Council has recognized the contributions of time and effort of our Executive Secretary, Mrs. Loreen Dunklee, who now formally exercises the duties of Assistant Registrar while retaining her former title. Mrs. Dunklee started with the Association in 1956. It was on her recommendation that the APFM Bulletin was started. The Bulletin Committee has been fortunate in having Loreen as Mentor ever since.

Her secretarial duties have continued from the regime of Jack Hoogstraten, P. Eng., President number 34, through to Mr. George De Pauw, P. Eng., current incumbent, number 51. With this experience, Mrs. Dunklee is a walking version of Association affairs and Bourinot's Rules of Order, and has made a valuable contribution to our special and general meetings. While it is not clear what part she'll take at stags or smokers, we can be sure they'll be run according to Hoyle — or rather, Bourinot!

Congratulations also go to Loreen for some other recent accomplishments — she has completed several writing courses by correspondence, two at the University of California at Berkeley, and the latest at the University of North Carolina where she obtained an A rating. With this background Loreen entered the Canadian Authors Association, Manitoba Division, contest this year, and was rewarded with second prize.

Our congratulations and full support for continuing success, Loreen. —E.A.S.

★ ★ ★

SOME BULL FROM TURNBULL

"DIVE"

My god we have been flooded. A few years ago Duff Roblin had the foresight to push through a ditch which would effectively protect Winnipeg from the ravages of a flood such as was experienced in 1950. At the time this idea was much maligned. This year when water levels on the Red River rose to levels comparable to those of 1950 no homes within the boundaries of the ditch were affected, yet there are a number of people particularly along Turnbull Drive who blame this ditch for losses incurred due to flooding.

If I read the reports in the paper correctly the feeling is that the operation of the gates effectively raised the water levels back along Turnbull Drive to cause their homes to be covered in water. For their losses they demand public sympathy and through the government offices, public charity. I, for one, am not quite so happy to be either sympathetic or charitable. I realize that this statement may be cause for some rock throwing so I ask that you give me a few moments to explain.

Since 1950 it has been well recognized that due to the topography of our country the water level of the Red would rise again sufficiently to cover the city. It was for this reason that a program to by-pass the city was initiated. All of the affected homes along Turnbull Drive fall into the following description. The homes have been built since 1950 with thousands of dollars spent to make the homes attractive and liveable without one cent to guard against flooding. The living area in most cases has been put at ground level. The moment the water rises they are fair game, a dramatic rise such as this year and they are not only fair game, but sitting ducks. Let me wander off into the fanciful world of analogies for a second. If a person builds a beautiful home completely uninsulated and then when winter comes along he is experiencing real problems heating his home or keeping his plumbing thawed should we all run to his side abounding in sympathy and charity? Although high water levels on the Red are not as frequent as winter, they are, nonetheless, just as predictable. No matter what, some day it is going to happen. Therefore, should we start paying for stupidity? Why can't people simply take a few moments to guard against the inevitable? If they don't I'm just a touch annoyed at their insistence on blaming someone other than themselves where, I maintain, the fault really lies.

A simple thing would be to build the homes with living area over the garage which would economically raise the living area 8 to 10 feet above ground level. Another idea is to put the house on stilts. With a little more imagination than I am willing to pursue it is possible to guard the house with even more elaborate schemes but I think you understand my implication.

The idea that the gate being raised caused the water to rise is pure nonsense. In order for any engineer to pass through the hallowed halls of higher learning two basic fundamentals are drummed into his

head. The first is, coffee is at 10:00 and the second is sewage runs downhill. Winnipeg is located approximately at an elevation 750 feet above sea level, the Hudson Bay is sea level more or less, therefore, all the sewage (and water) from southern Manitoba will flow continuously toward the lower point unless it is impeded or unless it hits the fan. The action of the gate simply does one thing and that is it stops the water from going along its natural river bed through Winnipeg. The extra water instead flows into the ditch and continues on to the final destination. None is sent back from where it came because of the basic premise of sewage seeking the lowest point, so the cries from these residents are groundless.

I feel sorry for people who lose anything when Mother Nature has a snit but I am a little reluctant to get too carried away when people don't even try to help themselves. I even get annoyed when they compound their initial error by accusing something or somebody else without even once trying to comprehend where the fault really lies. Oh well, as long as there is government seeking votes and minority groups screaming I guess we must listen and buy their silence no matter what.

—R.A.K.



STREAKING FOR ENGINEERS

This is the second of a series of technical lectures meant to upgrade the practising engineer so that he can meet the challenges of today. Humor and political satire and other expletives have been deleted. The following is a draft specification for consideration and adoption:

1.0 SCOPE:

- 1.1 Engineers shall be prepared at all times to perform streaking between 17.00 hours and 22.00 hours. The Code of Ethics requires engineers to have a social conscience" . . . It is his duty to interest himself in public welfare, and to be ready to apply his special knowledge for the benefit of mankind . . .".

2.0 QUALIFICATIONS:

- 2.1 Technical: All streakers shall be registered professional engineers.
- 2.2 Size: Iron Rings of Size 5 and larger.

- 2.3 Age: 21 to 50. In exceptional circumstances those over 50 can streak provided they can run at a threshold velocity of 7 feet per second for 60 feet without having to go to the bathroom.

- 2.4 Sex: Male, female or any reasonable fascimile. The University should be encouraged to attract more women to the engineering profession for streaking purposes.

3.0 SEQUENCE OF OPERATIONS:

- 3.1 Candidates shall look casual.
- 3.2 Drop everything but their slide rule.
- 3.3 Run as if your mother-in-law was after you.
- 3.4 Have a clearly defined exit.
- 3.5 Do not be distracted by voluptuous bystanders.
- 3.6 Look nonchalant when people say "Wow!".

4.0 WINTER OPERATIONS

- 4.1 Streaking shall only be performed when the wind chill is less than -60°.
- 4.2 Mufflers, scarves, long beards or bowler hats shall not be worn because they are distracting.
- 4.3 Icicles shall be removed from handle bar mustaches before streaking to prevent being impaled during the operation.

5.0 PLACE AND TIME:

- 5.1 Sporting places.
- 5.2 When your basement floods it is advisable to streak to the nearest beer parlour.
- 5.3 Streaks should only be performed after 5:30 in the evening. There is nothing more repulsive than an "engineer streak" in the early morning. Even a streak before the cocktail hour is considered bad engineering practice.

6.0 ASSIGNS:

- 6.1 This is a professional act and cannot be passed on to an engineer's successors, assigns or other corporations that might be within his gates.

AN EVENING WITH SOME PROFESSIONALS

Approximately 150 Association members attended the special May 9th evening session on professional liability arranged by the Employee Engineers, Legislation and Consulting Engineers Committees. The attendance is noteworthy as the Philadelphia Flyers were playing the Boston Bruins in the second game of the Stanley Cup playoffs.

Panel members were Doug Grimes, P. Eng., Kerr Twaddle, Q.C., Mike Dickinson, insurance underwriter and Fred Maltman, insurance adjustor. Stand-in moderator was Andy Gilliland.

The panel was introduced by George De Pauw, after which it was noted that an evening on professional liability had been opened in a most unprofessional manner, what with George attributing great accomplishments to the wrong people. To give George credit, he did know who Doug Grimes was.

The panel members, in turn, presented a few thoughts on the need for, and role of professional liability insurance. Doug Grimes illustrated the importance of liability insurance by briefly going through the stages of design, draft, supervise construction of a 4 million dollar job pointing out the number of people involved in such a project and the many opportunities for error or omission that could occasion a claim. He also noted that even a small error or omission can lead to large costs because of delays in completion, lost profits, legal fees, etc. At \$300 to \$700 per year per professional, the professional liability insurance was considered by Doug to be a necessary evil. In closing Doug asked several questions of his fellow panel members. Does the fact that professionals have liability insurance lead to higher claims? Should there be a minimum amount of liability insurance? What is negligence?

Kerr Twaddle responded to Doug by explaining that negligence was failure to take reasonable care according to standards of the profession of which you are a member. Kerr went on to note that we were exposed to liability in everything we did, consultant, employee or employer and that negligence can be the result of stress due to long working hours, insufficient time to make careful reviews, etc. Because of the complexity of cases, legal costs for defence of claims are often high

and Kerr advised all engineers to take good care of themselves by maintaining detailed records of all we do, e.g. minutes of on-the-job meetings. Mr. Twaddle went on to note that it was becoming more common to have claims arise against someone even if he is not part of the contract under dispute, e.g. advice given to a house builder on a foundation matter can involve the engineer in a claim by the house buyer. The matter of maintaining written records of such things becomes all the more important in such cases.

Mike Dickinson, insurance underwriter, opened by commenting that the best insurance against error and omission claims was an erasure. Mr. Dickinson went on to briefly describe professional liability policies for consulting engineers. Mutual respect between insurer and insured was an important ingredient and many problems can be resolved before they develop if insured keep insurer advised of possible errors, changes in contracts, etc.

Fred Maltman, as an insurance adjustor, stressed the fact that although according to legal definition his job was to "investigate and report" he felt that the important thing was mutual trust and early advice as to possible claims. He went on to explain the importance of having liability insurance by citing two cases where engineering firms had become involved in claims because they were the ones that had the name to protect and were willing to pay to protect it. In neither case was the engineer responsible for the failure but it was expensive to prove it. The value of the liability insurance is that it pays for the necessary investigation and legal fees to fight even those cases where the engineer is not at fault. Mr. Maltman stressed the importance of earlier notice of claims to the insurance company because in many cases claims can be settled early and at much less cost. Mr. Maltman also commented on the newest trends in engineering where engineers are being hired to review designs for large contracting firms and where the engineer was required to hold the contractor harmless for any error in design. Mr. Maltman recommended against getting caught in such arrangements. These latter trends were part of the present trend of trying to find a "patsy" to take the blame for errors and omissions claims with this being particularly important to former employees who are no longer covered by the liability insurance.

The panel generally agreed that although there was no real profile of a

claimant there were a few things that were common to many cases. These include lack of proper documentation, engineer working out of field of expertise, budget jobs and moonlighters. The lawyer and insurance men stressed the importance of proper documentation of design changes, specification changes, on site meetings, inspection and competent field direction.

After coffee break the meeting was opened to questions from the floor and after great prompting and urging from the audience George De Pauw asked what happened if a claim is made against a consulting engineering firm and the person responsible is not a registered engineer. He was advised that liability insurance covered registered professional engineers only. The question of the company's insurance was not clearly answered.

John Lewis was curious about responsibility for defective equipment in cases where the equipment is designed in one place, built in another and specified by another engineer for final installation by another engineer. The panel members generally agreed that it was a matter of contractual arrangements and limits of warranties. Proper documentation is very important in these situations as well since cases have arisen where expensive legal defences were necessary to protect against claims for defective equipment.

Stu Barkwell was interested to know if criminal indictments could result from failure to report known error or omission and the effect on companies insurance policy. The answer was yes to the first part and dependent on the situation in the latter case but if the case came to a judgment the insurance company would not touch it.

On a question about limiting liability by incorporation, Mr. Twaddle was adamant that this would be both unprofessional and the improper use of the incorporation principle which was developed for limiting liability of small investors. This limiting of professional liability by contract was also not a very professional act and in any case one cannot limit liability against negligence.

The moderator, Andy Gilliland, raised a case of newly registered engineers in crown corporation or government. The insurance people agreed that at present there is no way of providing professional liability insurance for individuals working

for the government. It was suggested that employees should get a good contract that would cover professional liability.

Under the subject of group insurance schemes Mr. Twaddle explained that the lawyers now had a compulsory scheme but as it was only one year old there was little history to go by. Estimated cost was in the order of \$400 per year per lawyer. This is lower than engineers but the exposure of lawyers to error and omissions claims is also less than engineers.

The moderator adjourned the meeting at 11:00 p.m. by thanking the panel for a most informative evening.

This reporter was impressed by the interest of the participants and the honest answering of some difficult questions. The committees who arranged this meeting are to be commended.

—R. C. ISAAK



THE SOLUTION

Every engineer should take his place in solving social issues. We, better than any others, must realize that with the Arabs' control of oil resources, they will soon have most of the world's money. We must, therefore, devise ways of reducing their financial resources and here are some suggestions.

1. Give Saudi Arabia the C.B.C., with, or without advertising.
2. Give Algeria our entire administrative force of the Unemployment Insurance Fund.
3. Arrange for the Arab block to "steal" the blueprints of the aircraft carrier Bonaventure.
4. Give to Iran one Canadian province (unnamed) and two unions.
5. **
6. Mail a credit card to every wife of every Muslim.
7. Rig an election so Jean Drapeau takes over as Mayor of Damascus.
8. **
9. Smuggle two Irishmen — one Protestant and one Roman Catholic — into Jordan.

Items 5 and 8 marked with an asterisk (*) have been ruthlessly expurgated from the text because they conveyed, what might be considered by some, to be political cynicism.

PINAWA NEWS

By JOHN WESTDAL

It was nice to have George De Pauw, Doug Grimes and Terry Algeo out for a meeting with our area engineers. Nine engineers from Pine Falls, twenty from Pinawa and engineer-pilot Jim Aitken from Lac du Bonnet generated enough controversy to keep our Winnipeg guests here until the pub closed. Among the topics discussed were salary surveys and the effect they have on keeping salaries low, publishing an A.P.E.M. minimum acceptable salary schedule, and the quality of engineering education at the University of Manitoba.

Jim Putnam attended the iron ring ceremony in Winnipeg and brought back rings for a few engineers who had lost theirs. Bill Ayres did a good job of organizing this year's curling windup, Garry Simmons is vacationing in California, Hammy Carswell is back from England, Don Card enjoyed a bus tour of the U.S., and Ron Mazur is back from Spain.

Leonard Bateman recently gave an interesting talk out here on Manitoba Hydro and he assured us that no other town will replace Pinawa as Manitoba's Atomic Capital — at least until the 1980's.

✦ ✦ ✦

THE ELECTION

Election time is with us again and as usual we are being told what marvellous things the politicians are going to do for us with our own money.

We have put our ear to the ground, and we are hoping we will hear from some politician who has decided that we might just know what to do with our own earnings without anywhere near as much assistance from government. We are waiting to hear someone tell us he is going to cut government expenditure back in direct proportion to the increase in the cost of living. We have public libraries which we already support and could get along very nicely without Information Canada. Young people of today are just as capable as they were a generation or four generations ago of working, and maybe even sweating a bit over their work and that they don't need a lot of hand-outs. We'd like to hear some politician say that the people who need help in this country are the blind and the handicapped

and the elderly who put their pensions together in depression, war and post-war years, and not kids who are too lazy to work. We'd like to hear a politician say he was in favor of abandoning the baby bonus and unemployment insurance schemes, and all their attendant bureaucracy by raising exemptions in lieu of the baby bonus and putting the unemployed who can work to work and doing something positive for their self-respect and the country.

If we do come upon such a phenomenon we are going to vote for him, if he hasn't been stuffed and put in a museum as an archaic species before election day.

—S.J.A.

✦ ✦ ✦

USE YOUR SEAL!

The Practice and Ethics Committee, under the Chairmanship of T. E. Weber, P. Eng., has recommended that members should be reminded that the Act requires each Professional Engineer to seal estimates, specifications, reports, working drawings, plans and other documents issuing from his/her hand, and further that the Code of Ethics requires that the member use his seal on work that his training, ability and experience render him professionally competent to undertake. A member may seal drawings in a discipline that does not correspond with his/her degree, provided that he/she does not contravene the Code of Ethics regarding competence in this regard.

✦ ✦ ✦

SO YOU GO BEFORE COUNCIL EH?

SOME DO'S AND DONT'S

There are many passages in the various chronicles which preach the virtues of man and the methods required in order to gain entry beyond the Pearly Gates. Such things as "the meek shall inherit the earth" are oft repeated passages drummed into our heads incessantly from youth. The other passage which gets a lot of air time (borrowed from a local Radio Station) is that all men are equal in the eyes of God. Having associated the past few months with our council I would like to say unequivocally that our members of council fully recognize the teachings of equality and fair play. There are, however, a few

rules which should be passed along in case any of our readers should enter the hallowed chambers.

1. Act humble.
2. If shorter Council members address you, be sure you are sitting down and they are standing, if necessary on Board Room Table. (Genuflecting could bring on eye to eye confrontation see notes on Body Language and Territorial Imperative).
3. Act humble.
4. Do not wear pink mohair sweater, black cords and Beatle Boots. (Sackcloth and ashes is usually accepted under these circumstances.)
5. Act humble.
6. Do not ask to be excused to go to the washroom.
7. Practise saying "Yessir" with sincerity.
8. Act humble.
9. No more than one sandwich, try and pick an egg salad, no one likes these. Above all save the cornbeef for the Executive. If they let you sit at the table, remember, elbows off.
10. In general, follow all suggestions under search and arrest in "Your Civil Rights" publication, a handy little guide which will be mailed to you in a plain brown envelope by the Executive Secretary twenty-four hours after the subpoena is issued.
11. Bow three times upon exit, **never turn your back on Council** (a both courteous and necessary precaution). Crawling under the Board Room table is not advised.
12. Act humble.

Once having read these rules commit them to memory and swallow this page. To continue in the vein started in the opening paragraph I will coin one more expression "It's not nice to fool with mother nature". Knowing what the digestive system does to all things submitted to it I can then be safely assured that all people who have read these rules will have them properly transformed into a material which is the fate of virtually all sets of rules. Thank goodness for sewage treatment.

-R.A.K.

Editor's Note: President George De Pauw paid a surprise visit to a meeting of the Bulletin Committee to observe the "press in action". After reading this article he announced that it was not necessary to genuflect when appearing before Council.



Monica Todd (top) and Maggie Brownie, at their desks in the Association office. The roles of both girls have been expanded and they are now working with some of the Association's Committees.

RETRACTION

A previous issue of this Bulletin may be construed to imply that staff in the Department of Engineering do not have matching socks. While it is a fact that lecturers do not wear matching socks during working hours for fear of being laughed at by their confreres, it is alleged that at least one member of staff has a pair of matching socks at home. The Bulletin apologizes to members whose sartorial pretensions may have been offended.



WHY THE ASSOCIATION EXISTS AS TOLD BY GEORGE DE PAUW TO THE 1974 GRADUATION CLASS

I know that after four years of acquiring knowledge and skills in the theoretical tools of analysis, you are anxious to go to work. To work in your chosen professional discipline will involve some responsibility to society. Everyone in the "design team" must share some degree of responsibility. However, in law, the engineer in charge is liable for the safety of the product. This means that, once you have been given the status of a Registered Professional Engineer, you then have a duty in law to only set your hand to works which you, yourself, determine that you are competent to undertake. As an Engineer-In-Training, you can only design and practise under the immediate and direct supervision of a Registered Engineer.

The concept of the engineer as an educated person is comparatively new. Historically, he has been a technologist whose job was to find solutions to problems, design the hardware to implement the solution, and build it himself. It was not until the 1900's that people other than Civil Engineers began to maintain that they, too, had these special skills required for calling themselves professionals and the various branches of engineering began to appear. If we define the engineer as a person who "conceives of and causes to be manufactured" something which someone else can use, then engineering has a long, generally honourable, history.

We know the engineer as a designer of buildings, boats, power dams, roads, and machines and engines of war, but actually we don't know the person. We know the

Caesars of Rome and the Mayors of our cities, but we don't know who designed and built the forum, arenas or the aqueducts.

Someone said, and I quote, "that it was not until the end of World War II that engineering was looked on as anything other than a way station in life. Now that a college education is almost the only way in which a man can achieve the title 'engineer', the profession is unique in that it is the only one containing a large number of people who are fighting to get out of it. The engineer has some odd professional distinctions: he is the only professional man who is supervised, the only one unionized to any extent, and the only one who regards his profession not as an end in itself, but merely a stepping stone to bigger and different things"; end of quote. I hope this attitude will change and that each of us will be proud to develop and remain in our own professional discipline.

The trend today appears to bring the Civil Engineer closer to the same liability situation as the Mechanical or Electrical Engineer who endorses the artifact as a technologist for the manufacturer. The use of prefabricated products, such as prefabricated buildings, bridges and structural components, is a good example. The failure of some of these products requires us to closely scrutinize the descriptive patents, literature and references being sanctioned by various quasi-official bodies. It is remarkable how misleading, in many instances, the descriptive literature can be. This requires that the engineer exercise caution when recommending a particular product to a client.

If product changes must be made or if the existing products must be certified, the engineer comes into the picture. He is the one who is charged with seeing that the product meets the current needs of society while, at the same time, not letting the costs of this product get out of hand. There is a serious obligation on all of us to conserve materials and not to design for built-in obsolescence in order to maximize short-term profit. You young people probably appreciate this fact more than some of us practising engineers.

In all this, the Association's mandate to police its own membership to protect the public — "Enforcement of the Act", as it is often referred to, is only valid if understood in law.

This is what it is all about. The lawyers tell me that a profession does not exist

unless it is a legal entity recognized in a Statute of the Legislature. It follows, therefore, that only by becoming a Registered Engineer can you correctly, in law, represent yourself as an Engineer or, in other words, can you gain the status of a Professional. I wish you all success, as you continue to develop your skills in the school of actual practice and assume a responsible position in society and, if you remain in Manitoba, I hope to see your name on our register as an Engineer-In-Training.

★ ★ ★



Mr. and Mrs. Randy Price and Mr. and Mrs. Alex Livingston at the Red River Ball.

★ ★ ★

"There rolls the deep where grew the tree
O Earth what changes has thou seen!
There where the long street roars, hath been
The stillness of the central sea."

Tennyson

FLOODS AND THE ENGINEER

Control measures built since the 1950 flood have prevented flood disasters on the Red and Assiniboine Rivers this spring. This was the message conveyed by a special meeting called by the Council and the Public Relations Committee to outline the major input of engineers to the containment of rampaging rivers. The press in attendance received and responded well to the message as witness subsequent newspaper articles.

The news conference and curiosity led me back to the school text "Outlines of Geology" and a couple of hours of renewing acquaintances with this fascinating subject. A view of historic background helps put our modern day struggles in perspective.

The remarkably flat and fertile wheatlands of North Dakota and the Red River Valley have been flood plains for hundreds of years. Geologists list our Lake Winnipeg and Lake Manitoba as part of the remains of the greatest of the glacial lakes, Lake Agassiz, formed while the ice still occupied Hudson Bay, impounding the water until it flowed south by way of the Minnesota River — about 10,000 years ago. The disappearance of the ice allowed the lake to drain away to Hudson Bay. The release of the pressure from the weight of the ice, estimated to be 10,000 feet thick, caused a rise in elevation or "up-warp", along the beaches of Glacial Lake Agassiz of at least 400 feet.

The 1950 disaster, besides inundating 10,000 homes, created a lake 75 miles long and 20 miles wide south of Winnipeg. This is a greater area than that covered by the Okanagan Lake, and gives an idea of the magnitude of the containment this year, considering that the heights of water were equal to or above the 1950 levels.

Now, if we could only stop it from raining!
—E.A.S.

★ ★ ★

RECORD REVIEW

Success of the kind achieved by Big Slim Stomper has a tendency to make reviewers such as myself a bit churlish. Aside from the civilized and generous appraisal of Big Slim's last recording in Chinchilla Raising for Laughs and Lucre (March), I cannot recall a wholly approving review of one of his recordings. Of course this is partly due to a certain arrogance in reviewers which causes them to resent popular performers who in many instances don't particularly care what reviewers think as long as the product keeps moving. There also exists a genuine bafflement that the public would prefer a product so transparently manufactured on a commercial assembly line to something of a deeper quality. However, I have changed my mind about Big Slim Stomper.

As soon as I played his new album, 'Busted Truck - Busted Luck', I knew that Big Slim had arrived with his promise fulfilled and all his problems solved. The title track had me reaching for the typewriter to sign its plaudits when I was interrupted by the second cut, 'Aunt Jemima Smythe', a song about an interracial courtship which tugged at my heartstring. I have it on good authority that this number will be released soon as a single 45 rpm recording, that's the small record with the large centre hole for all you audio buffs interested in technical details.

Big Slim is without doubt one of the most talented musicians in the business. He sounds like Johnny Cash without teeth and is a songwriter without peer. His songs about despair, tragedy and heart-break make one of Robert Stanfield's non-confidence motions seem hilarious by comparison. Besides penning his own tunes, Slim can also do justice to the classics as this album shows. His tear-jerking renditions of Hank, The Singing Ranger's,

'There's A Pony That's Lonely Tonight', 'Just a Faded Petal From A Beautiful Bouquet', and 'Paving The Highway With Tears' deserve a place in anyone's collection as does Big Slim's version of 'Will There Be Sagebrush In Heaven'. Although every cut of this super album is deserving of praise, I must mention two other cuts worthy of special recognition. One of these is the tongue-in-cheek multi-dubbed a cappella rendering of 'The Night I Stole Old Carson's Gin' and the remarkable *Rootie Tootie* which is even better than the original recording by Pee Wee King and his Golden West Cowpokes.

I could go on and on but anyone even casually familiar with this tunesmith's meteoric career can quickly appreciate that the session that gave birth to this can't-miss-golden-goodie caught Big Slim in full gallop. This is an album to grab hold of quick and treasure forever. Big Slim Stomper is a natural resource.

-L.J.W.



Mr. and Mrs. Tom Wong, Mr. and Mrs. Fred Young, Mr. and Mrs. Walter Saltzberg at the Annual Ball.

LIABILITY CAN BE FUN

Some wit and humor surfaced at the very serious seminar on Professional Liability. President George De Pauw started it off with very novel introductions of the head table. It was hockey night in Canada (or the U.S.) and there were over 150 engineers at the seminar, more than anyone can remember ever having seen at an annual meeting. There was a little confusion at the head table as to who was left forward and who was right defence. One thing was certain. Moderator Andy Gilliland's business is concrete and he knew he was not Craig Sommerville. Lawyer Twaddle reported on the very serious case of the young lady who had almost swallowed a snail she had discovered, just in time, in her root beer, and who was liable (and it was not the boy friend who had tried to talk her into ice cream instead of root beer.) Vice-President Doug Grimes, in preparation for the discussion, went to the office files for a copy of the liability insurance policy only to discover it had lapsed. Insurance Broker Dickinson, one of the two wise men from the east, said that the best insurance devised was the eraser on the pencil and that it should be used many times. Insurance Adjuster Maltman said it was "good for one's humility to be invited out of Ontario."

But it was our own John Lewis who won the Oscar for wit with the first question posed to the panel from the floor. "I think there is an assumption," he said clearly and distinctly "that it's mostly consultants and civil engineers whose buildings fall down and I agree with that, but some of us are suppliers of defective equipment that's bought on price and how does the responsibility split up between the seller who is presumably a friendly salesman, but nevertheless a registered engineer, the buyer who is supported by vast engineering staff, the buyer's consultants. The equipment itself may well come from overseas, it may come from the U.S. (a deferential nod to Past President Barkwell at this point). How should the man in Winnipeg who is really the boy on the spot protect himself?" —S.J.A.



OUR EARTHY GROUP

We received a telephone call in the office from a female who was looking for employment in an engineering firm, "be-

cause engineers are such earthy people." She already has engineering experience, having worked for two different consulting firms, who shall remain nameless. The girls in the office can hardly wait for the next meeting of the Consulting Engineers Committee so they can have a close look at some of these real keen "earthy" types.



FEE REMINDER

Members are reminded that under the provisions of our by-laws all annual dues must be paid in full by June 30. If a member owes all or any part of his dues after that date he will be removed from membership for non-payment of fees, relinquishes his right to practise professional engineering in Manitoba and before he may be reinstated he will have to make an application, pay the fees (plus penalty) he has neglected to pay, plus another registration fee. These regulations are laid down by by-law and there are no exceptions.



Professional Engineers Registered

By Council on May 7, 1974.

Richard John Bowering, Brian Clare Bradley, Allen John Dunsmore, Gordon William English, Jon William Gil, Helmut Graumann, Kari Antero Hartikainen, Donald George Hladun, Kenneth Lennix Manswell, Garry Brian Mazur, Lyle T. Moffat, Niels Middleton Nielsen, Ted Joseph Parent, Richard Stanley Penny, Jack Phillip Shaver, Dennis Walter Shick, George James Stewart, Harry Tiessen, Barrie Peter Walker, Cecil Yan, Bernd Udo Urbanietz, Jerry Arthur Martino.



Engineers in Training enrolled by

Council on May 7, 1974

Mr. R. A. Esdelle, Mr. K. J. T. Kjar-tanson.

McQUADE ELECTED

We are pleased to announce that W. R. (Ray) McQuade has been elected to the Board of Governors of the University of Manitoba as Alumni Representative.



W. R. McQUADE, P. Eng.



EXCUSES, EXCUSES!!

Two members, who shall not be nameless (Mac Collison, now of Toronto, and Marshall Gysi, now of Calgary) did not return their roster forms to the office by the deadline of May 21, and both sent in identical flimsy excuses for the delay. This mailing was sent to all members on April 26, after the postal strike was settled (?), and it reached these two esteemed members in the record time of 3 weeks and 6 days, in both cases after the deadline for the return of the form. Even if one assumed that the mail is now hitch hiking its way about the country, surely the post office can do better than this. Both of these addresses carried the new postal code which speeds service, so things might have been worse under the old fashioned system. We called the post office to inquire into this rapid transit mail system and were told that the "workers

are still all up in arms about the new machines and they won't work fast . . . they're still too upset so they work slow." And there was no indication that there would be any change for the better.



CENTENNIAL PROJECT

The University of Manitoba will celebrate its centennial in 1977 and the Alumni Association has announced a very worthwhile project and one that should meet with general support everywhere — a new library.



FLIN FLON NEWS

By F. S. GIRA, P. Eng.

P. Eng. Geoffrey J. J. Mould was appointed to the position of Process Development Engineer effective May 1, 1974. Geoff at the time of this appointment was Senior Research Engineer for special projects a position he has held since Oct. 1970.

P. Eng's. H. Banasuik, J. Munson and L. Parres are at this time recognized by this correspondent as the margin by which this column can legally be titled FLIN FLON NEWS. Any other P. Engs. that might appear in this column are evenly split between Flin Flon and Toronto and as employees of HBM&S. P. Eng. M. Collison just might get his reporting duties back if Toronto doesn't watch out. The winter activities are all rapidly drawing to a close and before I do, just a little gloating over the fact that Bobby Clarke one of the fellows responsible for Engineering the Philly win over the Boston Bruins in the Stanley Cup Play Offs comes from Flin Flon.



COUNCIL MEETS IN SPITE OF STANLEY CUP PLAY-OFF'S

The council meeting of May 7, 1974 began with the usual dispersal of sandwiches and coffee which are required to sustain the bodies of the members on council to carry them through the arduous discussions which lie ahead.

The intial points such as the accounts, licences, E.I.T.'S, transfers, registrations, and re-instatements were discussed and

passed. The point of who is getting how much occupied the minds of our leadership and was brought out. The membership salary survey of Canadian Professional Engineers was circulated, and discussed. Many interesting points were brought out by council members regarding the quality of questions circulated, the value of these sorts of surveys, and the benefit of circulation. The results were hashed over in minute detail. There was a division of opinion among the council members as to the ethical value of questions such as "Employed in a secure position but seriously seeking a new position to further career objectives". Although there were many diverse opinions the final consensus is that the survey would not be circulated because it tended to be redundant with other information currently in circulation, and in its current format it offers little information to the membership. In the same context was a proposal by the Ontario Association to C.C.P.E. to extend the Joint Industrial Salary Survey to include other provinces besides Ontario and Alberta. Letters from Nova Scotia and B.C. were entered and after full consideration the idea was agreed with in principle; however, prior to full approval, the costs would have to be fully documented.

The total membership of the APEM, was reported to show there are 1957 members as of April. This is a fluctuating figure as people are constantly moving in and out, but generally this is an average increase of 75 members from the year previous.

The budget for the Seminar of Professional Liability was approved and in spite of a concern about the conflict with hockey it was hoped that attendance would be good.

Mr. J. P. Sinclair, chairman of the Consulting Engineers Committee attended as a delegation to discuss the proposed standard agreement form that his committee was charged with formulating. Each council member agreed their efforts were to be commended but the point of liability was still in question. There appears to be a wide split over how this point is to be handled.

The number of members present barely constituted a quorum so it was felt the request that a self interest group be endorsed and the Employee Engineers Committee be given council's approval to go ahead with the formation of such a group was too big an issue to discuss with half

in attendance. It was tabled to a special meeting.

The APEM is to endorse the formation and Presentation of a brief by C.C.P.E. to the Restraint of Trade Commission. It seems as though the points currently being considered could affect the status of the Association and many of its members. It is too great an issue not to have some input from the various Professions including Engineers.

The meeting closed with some talk about the city forming a voluntary collective group to act as a negotiating group in salaries. The long term prospects do not seem to fairly coincide with the direction which is currently held by the APEM.

Mr. De Pauw and Mr. Grimes told of the warm and hospitable meetings they held in Pinawa. These trips are considered a success in that it is hoped that some greater affinity is felt by engineers to the APEM and of course vice versa. Similar trips to Thompson and Flin Flon will also be made in the future.

The meeting was closing as the ranks were thinned by previous commitments so the balance closed the meeting to rush home and catch the last period of the hockey game. I did too. —R.A.K.

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ISN'T IT THE TRUTH!!

Standard Specifications Contract General Conditions

INTERPRETATION

The plans and specifications are to be taken together. Anything shown on the plans and not mentioned in the specifications, and anything mentioned in the specifications and not shown on the plans, is to be considered as both shown and specified. Anything wanted by the Engineer, or any of his friends, or anybody else, except the Contractor, shall be considered as shown and specified, implied and required, and shall be provided by the Contractor, without expense to anybody but himself.

If the work has been done without expense to the Contractor, the work shall be taken down and done over again, until

the expense is satisfactory to the Engineer.

PLANS

The plans are to be considered diagrammatic and disgraceful, and are to be followed only where space conditions make it impossible to avoid doing otherwise.

Anything that is forgotten or left out of the plans and specifications, but which is necessary and required for the comfort and convenience of the Owner, whether he thought of it before or after the execution of the contract, shall be provided by The Contractor to the satisfaction of everybody — but the Contractor — and in full accord with the evident intent and meaning of the specifications and without extra cost to anybody but the Contractor.

Anything that is right on the plans is to be considered right; anything that is wrong shall be discovered by the Contractor, and shall be made right without telling on the Engineer or indicating it on the bills.

RULES AND REGULATIONS

The work throughout shall comply with all the rules and regulations, caprices and whims of all City, Country, Provincial and National and International Departments, Bureaus and Officials, having or not having jurisdiction over the same.

MATERIALS

All materials shall be of the best of their several kind and the Contractor is expected to know and provide the best, irrespective of what is specified in the details.

The Engineer reserves the right to change his mind about what is best. Any change necessary to make the work and the materials fit the mind of the Engineer, shall be made by the Contractor without extra cost.

PERMITS

The Contractor shall obtain all permits and shall pay all fees, dues, assessments, subscriptions to masked balls, organizations, outings, and all hat and dinner checks.

DAMAGE

Any damage done by the Contractor

shall be paid by the Contractor as liquidated damages and not as a penalty.

GUARANTEE

The Contractor shall guarantee, and does hereby guarantee that he will keep in complete and perfect working order, anything that the Engineer asks him to attend to, as long as there is not more work in sight in the Engineer's Office.

ARBITER

In case of any dispute arising as to the nature, character or extent of the work done, specified, or implied, the matter shall be decided by referendum and recall, after which the decision may be set aside and reversed by the Engineer. The Engineer's decision shall be final.

PAYMENTS

Payments, if any, shall be made as the work progresses in the amount of 85 percent of the value of the work done, as judged by the Engineer.

In any case the judgment of the Engineer shall cover more than enough to cover the payroll every Saturday night. The material men must take their customary chances.

The final payment, if any, shall be made only when everybody is satisfied, except the Contractor.

Any evidences of satisfaction on the part of the Contractor shall be considered as just and sufficient cause for withholding final payment.

FINALLY

The Contract shall accept and hereby does accept the conditions hereinafter appearing for himself, his ancestors and progenitors, his family, his heirs, executors, his ox, and his ass, and any stranger that is within his gates.

MOVING?

PLEASE let us have your change of address
