

## Period 1968 to 1991

### The History of the South African Council for Professional Engineers 1968 - 1991

by  
A M Kruger Pr Eng

#### THE BEGINNING

**1968!** A year of great import and recognition for the engineering profession in South Africa.

The passing of the Professional Engineers' Act (Act 81 of 1968) on 20 June 1968 was a year of great import for the engineering profession because it signalled official recognition by the Government for engineering as a self-governing profession. The growing use of the instrument of delegated authority, which at the same time limits interference by the state in a specific area of public interest (which it cannot exercise anyway), granted the profession a prized status not previously enjoyed. This devolution of authority from the principal organs of government opened a new era not necessarily understood by the various institutions(1). Delegation of Authority, Self-Government and Public Accountability had been addressed by Prof J E B Jennings(2) and some comments are apposite to give clarity and emphasis to the recommendations of the Shadow Council.

Up to that stage, the institutions had no real means of effectively censuring members but they were, to a degree, apprehensive that the Minister of Public Works would be able to interfere in the affairs of the profession if an Act was passed in Parliament. Trust had to play an important part. The fact that the profession itself had requested such an Act, and that it was not imposed on the profession, allayed some of the fears. Nevertheless, the differing standards(3) for admission to the institutions caused much unease within the ranks. Also, the universities had misgivings as to the possible interference by the Council in their course structures and the standards applied(4).

Because of these factors, and because the public would require guarantees that professional services were of a high standard, particular responsibility would be placed on the professional council to judge on the academic standard and subsequent training which engineers must receive prior to being registered. Accordingly, those involved wasted no time and decided to form a "Shadow Council" which could meet, discuss and make recommendations to the later de jure Council.

However, prior to this stage it had been essential to obtain understanding by the institutions. Many ad hoc meetings were held with office bearers and the lobbying was usually done at Kelvin House, where almost all were housed. In the basement luncheon room one table became renowned, where those engineers who could make a contribution were from time to time invited to sit together. Some meetings developed into heated discussions but in the end all the institutions accepted the developments and nominated suitable persons to serve on the Council and its committees.

Whilst much work was being done in Kelvin House, similar equally significant work was being done in Pretoria and finally sufficient nominees were available to fill the proposed vacancies.

The nominations by the respective institutions are noteworthy not only for the role which the nominees had played up to that stage but more so for the role which they were due to play in the future and the long hours of unpaid dedication which they were about to devote to the profession.

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- (1) SAIEE, SAIChemE, SAICE, SAIMM, Ingenieursafdeling, SA Akademie vir Wetenskap en Kuns, EASA, SAACE.
  - (2) EASA meeting 1962 and Information document No Inf 3/2.
  - (3) Shadow Registration Committee - 30 October 1968 - Appendix I.
  - (4) Section 26 of Act 81 and Section 14 of Regulation R.1527 of 17 July 1981.

For the legislation to succeed many people had to be involved and unfortunately time did not stand still. After the Department of Public Works had agreed to the Bill and it was placed on the order book for the Minister to present to Parliament, several months would elapse before it could come into force. Therefore, it was decided to hold meetings of the Shadow Council in the meantime to do preparatory work. Such a Council would not be able to take any binding decisions but could concern itself with procedures. Three meetings of the Shadow Council were held, viz. 7 October 1968, 20 November 1968 and 31 January 1969, and of the Shadow Executive Council on 17 October 1968, 21 November 1968 and 22 January 1969. At the first meeting, which was held at Kelvin House, Mr Driessen as Secretary of the Department opened the meeting and called for the election of a Chairman. There was only one nomination and Mr M R Gericke was unanimously elected as Chairman. After a ballot between Prof D W de Vos and Mr F C Robertson, Prof D W de Vos was elected Vice-Chairman.

The minutes of the meetings of the Shadow Council reflect the importance attached to the proceedings and some of the recommendations are worthy of note. Realising that Council members would be heavily engaged, the work load had to be distributed amongst as many people as possible. Therefore, powers were delegated to a number of committees. These were :-

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|------------------------|--|
| Executive Committee    | - with full powers of Council  |
| Registration Committee | - powers with responsibility for determining the standards of education and training on all matters pertaining to registration, except that refusal to accept may only be done by the de jure Council. |
| Disciplinary Committee | - powers to conduct investigations in cases of misconduct.   |

Attention was drawn to the appointment process of members to Council and committees and the fact to be noted particularly was that although members appointed under subsection 3(1)(a) had been nominated by their respective institutions, they were in reality appointed to represent their respective branches of engineering and not their institutions. However, it was recommended that they be permitted to communicate such matters, as determined by Council, to their institutions.

Furthermore, members of Council who were nominated by the respective universities and appointed in terms of subsection 3(1)(d) would indeed represent their universities and this fact was to play a major part in subsequent relations with the universities.

So that the actions of the de jure Council would be legal it was necessary for the members to be registered as professional engineers and that a Registrar be appointed to set up an office to handle the affairs of the Council. Mr M F Reinecke was duly appointed to this post.

As certain expenses would be incurred it was noted with appreciation that the institutions and the Department made loans available as follows:

SA Institute of Agricultural Engineers	R500
SA Institution of Chemical Engineers	R1 000
SA Institution of Civil Engineers	R6 000
SA Institute of Electrical Engineers	R5 000
SA Institute of Mining and Metallurgy	R1 000
Engineers' Association of SA	R1 000
Department of Public Works	R35 000

In spite of the unknown number of engineers who may apply for registration, Prof J B Jennings submitted a proposal (5) for a fee structure which was accepted, viz.:

(5) Annexure to Shadow Council meeting dated 29 November 1968.

### COUNCIL

Member	Alternate Member
Bruwer, Jabe Johannes	Vorster, Pieter Johannes Christiaan
Neale-May, William Montague	Findlay, Kenneth William
De Vos, Dirk Wouter	Watermeyer, Thomas Christian
Gericke, Michael Roelof	Middlecote, Alfred Albert
Campbell Pitt, Lyell Thomas	Hopewell, Cecil John
Cross, Harry Edward	Maxwell, Dennis Grantham
Roux, Abraham Johannes Andries	Grant, Walter Lawrence
Dommissie, Jan	Loubser, Raimund Stefanus
Robertson, Fordyce Centlivres	De Waal, Frans Ignatius
Jackson, Fred	Hawkins, Robert Drake
Goode, Robert Charles Jeffry	Robinson, Victor Charles
Mullins, Arthur Robert	Van Wyk, Jan Daniel Naude
Wipplinger, Otto	Kemp, Jacobus Frederick
Heymann, Franz Gustav	Du Toit, Cornelius Andries
Jennings, Jeremiah Edmund Bowden	Cormack, William
Kaplan, Maurice Frank	Metcalf, Peter
Knight, Kenneth	Hellawell, Ronald Arthur
Driessen, Johannes	
Stutterheim, Niko	
Gibbs, Thomas Leonard	
Van Zyl, Abraham Johannes	
Retief, Daniel Pieter Johannes	
Loubser, Jacobus Gustav Hans	

### EDUCATION ADVISORY COMMITTEE

Member	Alternate Member
Kemp, Jacobus Frederick	Wipplinger, Otto
Heymann, Franz Gustav	Du Toit, Cornelius Andries
Jennings, Jeremiah Edmund Bowden	Cormack, William
Metcalf, Peter	Carr, Andrew Donald
Knight, Kenneth	Hellawell, Ronald Arthur
Naude, Stephen Charles Marais	Williams, Aston Rowland
Slabbert, Norman Desmond	Joubert, Johannes Jacobus
De Vos, Dirk Wouter	Jackson, Fred
Stutterheim, Niko	Mullins, Arthur Robert
Plewman, Robert Percival	

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### PROFESSIONAL ADVISORY COMMITTEE ON AGRICULTURAL ENGINEERING

Member	Alternate Member
Grobler, Barend Johannes Gerhardus Wessel	Perold, Ronald Pierre
Venter, Gerhardus	Van Straaten, Nicolaas Jacobus
Bruwer, Jabe Johannes	Lötter, Dawid Casper
Vorster, Pieter Johannes Christiaan	Matthee, James Francois la Garde
Crosby, Charles Tobias	Van der Westhuizen, Pieter

### PROFESSIONAL ADVISORY COMMITTEE ON CHEMICAL ENGINEERING

Member	Alternate Member
Carr, Andrew Donald	Woodburn, Edward Thomas
Neale-May, William Montague	Keith, Robert George
Findlay, Kenneth William	Peachey, Cyril George
Schoeman, Dawid Johannes	Bruckmann, Clive Goldsmith

### PROFESSIONAL ADVISORY COMMITTEE ON CIVIL ENGINEERING

Member	Alternate Member
Midgley, Desmond Clifford	Coetsee, Andreas
Kriel, Jacques Pierre	Linde, Nils Ivor
Jackson, Fred	Hawkins, Robert Drake
Robertson, Fordyce Centlivres	Watermeyer, Thomas Christian
Harris, Clifford	Barker, Norman Arthur

### PROFESSIONAL ADVISORY COMMITTEE ON ELECTRICAL ENGINEERING

Member	Alternate Member
Heymann, Franz Gustav	Phillips, William Eric
Boyce, Charles Frederick	Linder, Gordon Felix
Gericke, Michael Roelof	Mullins, Arthur Robert
Bishop, Thomas Richard John	Langford, Cyril Etheridge Rowley
Middlecote, Alfred Albert	Lineker, Alexander William

### PROFESSIONAL ADVISORY COMMITTEE ON MECHANICAL ENGINEERING

Member	Alternate Member
Kemp, Jacobus Frederick	Du Toit, Cornelius Andries
Loubser, Jacobus Gustav Hans	Cawood, Henry Cecil
Campbell Pitt, Lyell Thomas	Gray, Edward Wensley
Hopewell, Cecil John	Kinghorn, William Mitchell
Mulock-Bentley, Desmond	Tompkins, George Maxwell

### PROFESSIONAL ADVISORY COMMITTEE ON METALLURGICAL ENGINEERING

Member	Alternate Member
Van Rooyen, Gerrit Tertius	Robinson, Frederick Paul Alfred
Britten, Henry	Bleloch, William
Douglas, John Keith Elers	Maxwell, Denis Grantham
Cross, Harry Edward	Gilfillan, Angus Edward

### PROFESSIONAL ADVISORY COMMITTEE ON MINING ENGINEERING

Member	Alternate Member
Plewman, Robert Percival	Lampbrechts, Jacobus de Villiers
Gibbs, Thomas Leonard	Moerdyk, Cornelis Marinus
Pyne-Mercier, William George	Papendorf, Otto Leopold

Goode, Robert Charles Jeffrey  
Robinson, Victor Charles

Janse van Rensburg, Petrus Wilhelmus  
Taute, Andries Hendrik

**Professional Engineers:**

Application fee	R20
Annual fee	R10 for members of a recognised institution R25 for non-members

**Engineers in Training:**

Application fee	R5
Annual fee	R5 for members of a recognised institution R10 for non-members

**Temporary Registration:**

Combined fee	R50 per annum
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Language was to play a significant role in cementing many friendships when it was agreed that both official languages be used but that minutes be prepared alternatively in each without translations. It also gave rise to many amusing incidents. One subsequent Council member, Dave Odendaal, was heard to comment as follows after the chairman had given his summing up: "Ja-nee, mnr die voorsitter, dis reg maar dis verkeerd".

At this early stage it was recognised that certain matters needed urgent attention and would require careful consideration, the most pressing being the requirements with which an association of engineers must comply for recognition(6) and the definition of the kinds of work reserved for professional engineers.

Although all the aforementioned institutions had played an extremely valuable part in obtaining status for the profession, note had to be taken that the constitutions of the SA Institute of Electrical Engineers and the SA Institution of Mechanical Engineers did not fully meet with the proposed education requirements for registration(7) in that their diploma qualifications were not of the standard required. A period of two years needed to be granted to permit them to comply with the requirements.

Educational requirements were also not easily solved. The standard accepted was a Bachelors Degree in Engineering from a South African University or its equivalent. The latter required knowledge of overseas universities and their standards. Consequently, the institutions were asked to assist in this regard.

Not only the Shadow Council and Shadow Executive Committee had been preparing for their tasks ahead. Various committees were meeting and had to be informed of their responsibilities. For this purpose the Chairman addressed members of all the Advisory Committees on 4 November 1968 and again on 13 November 1968 when only the respective chairmen were present.

Now that the Act was an accomplished fact, urgent attention had to be given to the clauses dealing with registration. It was also clearly emerging that a concise definition of the kinds of work reserved was not possible and that the Registration Committee and the various Advisory Committees would need certain guidelines in interpreting these aspects. Rules and regulations were drafted regarding procedure and these were submitted to all concerned at the first meeting of any new Council(8).

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- (6) Shadow Registration Committee - 14 January 1969, pages 4 and 5.
- (7) Registration Committee meeting - 14 January 1969, item (6).
- (8) Council meeting - 18 February 1981 -Annexure B, pages R81/38 to R81/63.
- (9) Regulation R3063 of 8 August 1969.

In preparation for the first meeting of the de jure Council on 14 February 1969, draft regulations were circulated to all members. The most significant of these was the regulation for the kinds of work reserved for professional engineers, as proposed by Mr G S Pool (9). In the main this regulation attempted to set out, for all the recognised disciplines, the work of an engineering nature as being that which involved the various aspects or tasks normally undertaken but which also required the skilled application of the principles of mathematics and the attendant sciences which could only be acquired by having followed and passed the necessary examinations prescribed. This particular regulation was to be discussed almost ad infinitum by not only the Council and various committees but by other bodies as well. Those particularly versed in law held the opinion that the regulation was vague and therefore not able to be applied and perhaps even self-contradictory. However, none of these could submit an acceptable alternative and the regulation served its purpose for the life of the Council.

Very wisely, perhaps, the Council never considered it necessary to use this regulation in formulating any charges. However, it can be stated with confidence that this regulation succeeded in advancing the perception of what was required of the professional engineer and his status was thereby enhanced.

But perhaps the most difficult aspect of registration was clause 18(4)(b), which did not require a degree in engineering, but stated that if the applicant "was engaged in the performance of engineering work which in the opinion of the Council is of sufficient variety and of a satisfactory nature and standard and had been so engaged during a period of not less than three years prior to that date (i.e. 14 February 1969), he shall be deemed to have complied with the requirements for registration mentioned in subsection (2)(b)" i.e. to have a satisfactory qualification.

Clear understanding of this clause was urgent because it would lapse after six months. However, it was realised that the main reason for this moratorium was to encourage persons to apply as soon as possible and this objective was indeed achieved.

The Registration Committee insisted that every person desiring registration must provide full details of his qualifications and experience regardless of his standing in the profession(10). It is interesting, although not recorded, that the application of the nominated chairman of the Registration Committee, Prof Jennings, was returned to him as it was incomplete and he was required to submit details of his engineering work before he could be registered. His work is very impressive and his file reflects his distinguished career.

## **FIRST COUNCIL - 1969!**

The Act came into operation on 14 February 1969 and the Council held its first meeting in the W M Nicol Hall on the 8th floor of the Provincial Council Building in Pretoria. It was an auspicious occasion. The attendance register (11) is very impressive not only because of the Council members present but also because of the presence of the Minister of Public Works, Mr B Coetzee, and the Secretary of his Department, who chaired the meeting for the election of President and Vice-President. In both cases the election was unanimous and Mr M R Gericke became the first President of the South African Council for Professional Engineers (SACPE) with Prof D W de Vos the first Vice-President. Both were to hold office for

many years and to contribute much to the profession during those years, so much so that Mr Gericke was later awarded an Honorary Doctorate by the University of Pretoria for his magnificent contribution to the engineering profession.

It has often have been asked why the Department of Public Works was involved and this is already covered in the short history by Dr M R Gericke (12) and Dr R S Loubser(13). In fact several cases have been made out for a separate department because of the great contribution which engineering makes towards the country, but other lobbies have thwarted all such attempts.

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(10) Shadow Council meeting - 29 November 1968 - Annexure A.

(11) Council meeting - 14 February 1969.

(12) History of legislation for the Registration of Professional Engineers in the Republic of South Africa up to the establishment of the SA Council for Professional Engineers.

(13) Events leading up to the Registration of Professional Engineers.

At the luncheon the Honourable Minister, in his historical survey, paid tribute to the contributions made by Drs F E Kanthack, E J Hamlin and M M Loubser, all leaders who had unfortunately already passed on. He did specifically acclaim the profession for achieving legal status, a fact fully supported by the Government because he found that, in perusing the Act it was basically designed to:-

"protect the public by ensuring that engineers are properly qualified; protect the public in its dealings with the engineer by the administration of a Code of Professional Conduct; protect and control the profession and to safeguard the engineer against unfair competition by unqualified persons and undercutting of fees; and improve the image and enhance the status of the profession by assuring the professional competence of the members."

An appropriate reply was made by the President in which close co-operation with the Department was promised as well as the recognition of the autonomy of the educational institutions and the professional engineering institutions.

A perusal of the list of members of the first Council and its committees shows that all except one were engineers, thus confirming that the engineers were truly in charge of their own affairs. However, because of the experience gained with the formulation of the Act, it was realised that legal skills would be necessary. What was needed was someone with a particular knowledge of the drafting of laws and regulations rather than legal knowledge in applying existing legislation. Mr George Pool, who was Deputy Secretary of the Department of Public Works at the time, was such a person. He was recommended to the Council by the Secretary of the Department and was gladly invited to attend meetings with observer status. Indeed, this was a most fortunate choice and although many debates ensued, with him sometimes acting as devil's advocate, his guidance was invaluable. At times it lead to much frustration but in opening channels for investigation he would often switch and change his mind with great conviction. "What is a mind for if you cannot change it?" was his favourite saying.

Consequently the role that Mr Pool played in drafting the regulations, without which the Council would not have been able to operate, must be acknowledged with a deep note of gratitude. Those who worked with him will remember him because he was a true facilitator and never attempted to change or criticise existing practices without very good reason. No hidden motives were ever held by him.

Although never said, the implied objective of the Council was to motivate engineers to strive towards the situation already attained by the medical and legal professions, where the main aim of those entering the profession was to become registered because it conferred statutory recognition. To initiate the process the Minister presented certificates of registration to the following:-

Mr M R Gericke  
Prof J E B Jennings  
Dr A J A Roux  
Mr A R Mullins  
Mr L T Campbell Pitt

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(14) Section 18(4)(a) of the Act.

The presentation was very significant for the reason that the first four held acceptable qualifications and had performed engineering work of sufficient variety and standard for many years. The fifth person did not hold an acceptable qualification but had for many years performed acceptable engineering work, even to the extent of starting up a foundry in the desert during the war using whatever bits and pieces of material were lying around. This foundry produced many essential spare parts for the tanks of the 8th Army. On this note it may seem strange, but the first application to be registered under the grandfather clause (14) was a very prominent engineer who taught many engineers and was noted for his advanced work in engineering design. He was Prof W J Walker of the University of the Witwatersrand who held several doctorates, but his basic degree was in science and not engineering and therefore not acceptable in terms of the Act.

One of the first notices to be published by the Council was a list of acceptable degree qualifications (15) as recommended by the Education Advisory Committee. This was urgent because the section (16) dealing with the performance of work reserved for professional engineers and the reservation of the title Professional Engineer would come into effect on 1 September 1969. Consulting engineers would, therefore, be required to register within this period, which they did.

Apart from the South African degrees in engineering the Hons degree from the United Kingdom, the Ir degree from the Netherlands and the Dipl Ing degree from Germany was included in the initial list. Later, after further knowledge and experience had been gained, many additions and also deletions were made. The list was not subsequently published in view of the constant changes made to degree courses from time to time. Such changes were noted on the basis of personal investigation and relation with overseas bodies. One such body is the Federation European d'Associations Nationales d'Ingenieurs (FEANI) and Prof De Vos was delegated in 1970 to attend their conference in London on behalf of FSPE, as the Council, being a statutory body, could not send a representative. He also attended subsequent meetings of FEANI and returned with valuable information about engineering courses.

Those not holding an acceptable qualification remained to be considered. As a principle the Council accepted that the umbrella clause (17) was included in the Act so that it would not result in the "deprivation of livelihood" by persons who, whatever their qualifications, might be performing engineering work of a professional nature at the date of the commencement of the Act. Although it was felt that for the consideration of applications in this section a fairly lenient view should be taken, this did not mean that everyone who called himself an

engineer should be registered. It was noted that the last medical practitioner admitted under a similar clause had then only recently passed away. Rules of procedure were therefore prepared (18) for the initial period of six months. One such rule included, and was specifically drafted for, corporate members of the recognised institutions in view of the excellent work the institutions had done to maintain standards before the Act had been passed. Council further resolved (19) that institution members who were "in the pipeline" for corporate membership could be registered provided they passed the prescribed examination (20).

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(15) Council Meeting - 14 February 1969, appendix (14).

(16) Section 21 of the Act.

(17) Section 18(4) of the Act.

(18) Annexure 7 to Council Meeting - 14 February 1969.

(19) Annexure 9 to Council Meeting - 14 February 1969.

(20) Regulations Committee - 6 February 1970 - Annexure W.

(21) Private Practice Committee Meeting - 25 November 1969 - item 2.

At this time the H F Verwoerd Dam was being constructed and many foreign engineers were involved in the project. Consideration had therefore to be given to the requirement for registration of persons performing engineering work in South Africa for short periods of time. The Act made provision for temporary registration but it was not clear whether all those persons in the employ of a company and who were performing engineering work needed to be registered. This problem needed to be addressed because clearly a company as such could not be registered. Therefore, guidance had to be given to large companies, such as mining houses, which received fees for consulting work. The Private Practice Committee sought legal advice on this matter but found that each question exposed new factors not previously apparent (21). Many of these were never really resolved to the complete satisfaction of all concerned but the wisdom of Mr A R Mullins prevailed. He held that matters would resolve themselves in time as people learnt that the purpose of the Act was to protect the public by ensuring professional services. He was a strong proponent of the saying "softly, softly catchee monkey", thereby implying that employer organisations would tend to employ registered persons because their peers had judged them to be competent and secondly but perhaps most importantly, those companies requiring engineering services would specify this requirement.

In the case of the dam all the engineers applied for and were granted temporary registration, thereby setting an example for foreign companies to register the engineers performing work in South Africa. The Council held the view that professional engineering work should be performed by registered professional engineers who were subject to a code of ethics. The difficulty was to interpret the type of work reserved for professional engineers. Much discussion was devoted to this. Some members felt that persons holding a specific post should be registered. This view was strongly held by certain members in the mining community. The Council, however, could not accept this and decided that each case must be considered on merit. With approximately ten thousand applications the task became monumental. Various proposals were made. Initially the Registration Committee consisted of eleven members and to speed up the process the committee was divided into two groups which would function independently, one in Johannesburg and one in Pretoria (22), and their recommendations would be submitted to the main committee. Even this change could not resolve the problem. Files were carted backwards and forwards by members and at one stage some were stolen from a car and never recovered.

After approximately a year it was decided to appoint all council members and alternate members as full members of the Registration Committee, with a quorum of four. The two

committees were still to operate as this saved on transport. The Chairman of the Johannesburg Committee was Prof Jennings (affectionately called the late Prof Jennings because he was never on time) who was also the chairman of the main committee, and Prof F G Heymann as chairman of the Pretoria committee. However, files were still carried back and forth and to complicate the administrative procedure further, difficult or unclear cases were submitted to the respective Professional Advisory Committees dealing with the various branches of engineering. Nevertheless, sterling work was being done by all concerned but the pressure from applicants demanded speedier results.

Meetings were held once a week rather than once a fortnight and although those members residing in or around Johannesburg were requested to attend meetings in Johannesburg they were nevertheless free to attend meetings in Pretoria and vice versa. When more than eight members were present, the meeting broke into two, each with a separate chairman, and at the end of the session all cases were reviewed by the combined meeting. This was considered essential so that applications could be considered thoroughly. However, because of the fact that members were, in their own minds, not entirely clear on those cases deemed to be borderline, many applications were referred to the referees named in the application for a confidential report.

Some referrals naturally caused long delays because the referees either did not reply or were no longer available. Much correspondence was therefore conducted, especially where the referee gave a testimonial rather than a report on the level of work performed. In these cases the Professional Advisory Committees (hereinafter referred to as PAC's) were asked to advise. The advice of the PAC's was not always accepted and it was necessary for the President to attend some PAC meetings to give them an insight into the level which the Registration Committee considered acceptable(23).

Not only an interpretation of the kinds of work was essential, it was also very necessary to receive legal advice on the meaning of some of the clauses of section 18 of the Act which specifically deals with the periods during which the work was performed. Adv Margo(24) was consulted and his opinions were applied throughout to the consideration of applications, namely: that the period during which engineering work was performed, the substitutes for the academic requirements, and refusal to register, could only be challenged for review via the Supreme Court.

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(22) Registration Committee Meeting - 25 November 1969 - item 2.

(23) Council meeting - 30 October 1970 - Annexure D.

(24) Council meeting - 30 April 1970 - Annexure L.

A further problem was an interpretation of subsections 18(6) and (9) which deal with persons not ordinarily resident in the Republic or persons temporarily absent. In this case Mr Pool(25) gave valuable advice and the matter was resolved by accepting a statement from the applicant regarding his intention to take up permanent residence.

The Council realised, in the beginning, that the Act did not provide for appeal against any of its decisions and whilst some members were of the opinion that an opportunity to appeal was necessary, it was later realised that an appeal would drag out the process which was already taking very long. As a wise compromise, a letter (26) was drafted indicating that, on the basis of the information received, the work was not of sufficient variety or of a satisfactory nature and standard but that the applicant may submit further information regarding the work performed by him within two months of the letter. The last clause, in

effect, allowed for an appeal(27). This development took time and thus letters of refusal were sent out only after more than a year had passed.

The Registration Committee had the power to register but the Council reserved its right of refusal. Nevertheless, since all members received copies of minutes, any member could ask for a particular application to be withdrawn for further consideration before confirmation of the minutes at the subsequent meeting of the Registration Committee. Great care was exercised that extraneous information was not made use of and referees were usually consulted in such cases.

Doubtful or difficult cases were held back and attempts were made to collect similar cases in common areas for special consideration. These were referred to panels composed of professional engineers with specific knowledge in those fields and their findings were made known to the Registration Committee via the PAC's, thus spreading the knowledge which could be gained by all members.

In later years an interesting analysis of several hundred cases registered in terms of the umbrella clause [(18(4)(b))] showed that none had reached the acceptable level in less than twelve years after matriculation. The graduate route only required seven years(28).

After two years of operation the Registrar resigned and a professional engineer, Mr A M (Mike) Kruger, was appointed to the post. This change heralded the conclusion of the start-up phase of the Council's activities and the attainment of maturity. During the registration process copies of the applications were sent to members, but many files were too bulky. One applicant sent a box full of files almost a cubic metre in size to support his case. The Registrar, therefore, proceeded to make summaries of all the applications. Ten of these were sent to five members in advance of the meeting. The Chairman received the complete file so that he could put the detail to the meeting. In this way the procedure was modified and the backlog was worked off. The application form was redrafted limiting the amount of information to be submitted and all applications were routed via the PAC's.

The 1984/85 Annual Report gives the cumulative registration statistics shown on the next page.

What the statistics do not show is the number of times an application was considered and reconsidered not only by the Registration Committee but by the various PAC's. Typically each application would be seen by at least five people and two committees before each application was finally audited by initially Mr Otto Rau and subsequently by Mr Cecil Hopewell as to procedure and full consideration.

At one stage an institution which claimed professional status appealed to the Minister who asked the President, Vice-President and Registrar to attend a meeting with institution representatives in his office.

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(25) Council meeting - 26 June 1970, item 3.2.1.

(26) Exco - 26 November 1970 - Annexure A.

(27) Audi Alteram Partem - Principal Council Meeting - 28 August 1970. Annexure A.

(28) The SA Mechanical Engineer, Vol 25, September 1975.

After receiving the explanation of the careful procedure followed by the Council, the institution accepted that whilst some of their members were registered, by far the greatest

majority could not be registered and that they had no valid claim to be a professional institution.

All certificates did not indicate under which clause the registration was granted. This is clear from the Act which stated that in terms of section 18(4) being the "umbrella" and "grandfather" clauses the applicant shall be deemed to have complied with the academic requirements. So everyone was, in effect, registered in terms of clause 18(2). The "grandfather" section [18(4)(a)] was only applied to prominent persons, however, and only a limited number were thus registered.

Discussions with employer organisations were ongoing all the time. These included the Mining Houses, SASOL, CSIR, Government Departments and others. Many points were raised but two significant ones were the salary scales for professional engineers and the training of engineers in training.

Initially experience was accepted in lieu of training because a chicken and egg situation obtained. However, in the late seventies more attention was given to training. (Experience implies developing of capability through individual mistakes, whilst training implies developing of capability under guidance.) One of the outgrowths was the introduction of mentors. These were professional engineers nominated by the respective institutions to act as advisers to engineers in training. The mentors could be in-house or external but in each case could only act with complete approval of the employer. Some institutions employed this very successfully and guidelines to mentors were drawn up by some institutions to assist in the training of graduates (29).

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(29) Guidelines to Mentors by J R Nortier - SAIMEchE. The training and Registration of Electrical Engineers - SAIEE. Metallurgical Graduate Training Scheme - SAIM&M. Guidelines for the training of graduate civil engineers. Training of agricultural engineers in training.

(30) Registration Committee - Meeting 21 July 1969 - item 4.

Initially the institutions called upon the Council to give automatic recognition to their corporate members (30). Such a delegation of power was not possible in terms of the Act. Many meetings, including joint meetings with the institutions were held to resolve this situation. In some cases it was possible to accept persons holding a specific post as acceptable for the purposes of registration but in all cases each applicant was accepted on merit only.

Many employers made registration an essential requirement and it was also becoming a desired status. However, there were cases of personal disappointment and hardship. One such case cropped up when a very prominent minister of the cabinet personally telephoned the Registrar for a review of a member of the Prime Minister's constituency. It transpired that of the five sons the younger four were registered but the oldest son, who worked as a technician and had paid for the education of his four younger brothers, could not be registered. Regrettably the Prime Minister had to be advised accordingly. The problem was caused by the wife of the youngest who taunted the wife of the eldest.

As the requirement for registration was initially only applicable to engineers in private practice many requests were received from such persons to enter into partnership or association with persons not registered as professional engineers. The general rule accepted by Council at that time was that partnerships with other professionals such as registered architects, etc. were granted but persons not registered as professionals by equivalent

councils could only work as associates. In both cases, however, strict adherence to the code of conduct was required and the professional engineer had to accept full responsibility.

The status of companies performing engineering work still needed to be addressed. The Council sought legal advice in this matter especially when the Steel and Engineering Industries of SA (SEIFSA) approached the Council on behalf of its members who felt unsure about the interpretation of sections of the regulations. The Council consulted Adv Welsh and SEIFSA presented an opinion by Adv Kentridge. The matter was finally settled at a meeting<sup>(31)</sup> when all parties accepted the opinion of Adv Welsh that the provisions of the Act and Regulations were not applicable to companies.

The effectiveness of the Act was illustrated in a very startling way by the City Engineer of a very large municipality. He was being pressured by a Councillor to agree to a certain matter which was not in the interests of the citizens. Pointing to his code of conduct under the Act he asked for a written statement because he would be breaking a law if he agreed to the matter. The Councillor promptly retreated very apologetically.

However, there was still the matter of limited liability companies deriving their main source of income from the performance of purely consulting work and who could place registered persons in private practice at a disadvantage. An amendment to the Act was considered but Council resolved that no amendment was necessary and that the matter was adequately covered by the Act<sup>(32)</sup>.

Such matters also affected related professions and the Council was pleased to support the formation of a Building Professions Liaison Committee where common problems could be discussed. This committee met at frequent intervals. Although the relevant acts were similar, different needs prevailed in the respective interpretations but much common ground existed and this proved to be a valuable forum for reaching a mutually beneficial consensus.

One ever recurring subject was advertising of professional services. The Council appreciated the problem of newly qualified persons becoming known but felt that, although companies could make their existence known, the existing structures should remain and the placing of names in the Yellow Pages not be allowed. The brass plate and the discreet calling card was all that could be countenanced. Nevertheless, well-established practices sometimes narrowly encroached through advertisements for staff or sponsorship of pages in sports programmes. No action was taken in these cases except for a quiet chat by a Council member - always to good effect. In later years the placing of advertisements was permitted, subject to certain conditions of which the most noteworthy was that it should be factual and not self-laudatory.

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(31) Council meeting - 25 June 1971, pages R71/515 to 517.

(32) Council meeting - 28 January 1972, item 8.3.5 and Section 21(1)(b) of the Act.

In these formative years many of the apparent transgressions of the Act took place due to a lack of knowledge or an understanding of the Act. The Council was placed in an invidious position by virtue of the fact that as the statutory body any statement by it could be taken as an interpretation of the Act. Yet, people needed information and sought it from the Council. In all cases they were referred either to their own legal adviser or the appropriate learned society. Nevertheless, as a start, the Council issued a memorandum on the requirements for registration to all Government Departments and South African Embassies and Consulates<sup>(33)</sup>. It also decided, in view of the incorrect perception that the Council was

some sort of secret body, to send an annual report as well as a newsletter to all registered persons(34).

The general feeling amongst Council members was that the institutions and FSPE should be doing the publicity because they were not bound by legal constraints. Several meetings with all these bodies were held but communication remained slow and not very effective.

There were developments in the training of young graduates. After judicious and subtle prompting the Council was invited to meet the Chief of the Defence Force and leaders of industry. These meetings developed into on-site visits by the Council and many vexing problems were eventually solved. One particularly difficult matter was the use of engineers and more particularly engineers in training by the Defence Force. Although this was never resolved entirely satisfactorily due to strategic demands, it was much improved and engineers in training were no longer required to sit in the bush with nothing to do, but instead were allocated to tasks involving engineering solutions.

Industry was encouraged to submit training programmes and a list of organisations offering acceptable training programmes was published in the annual report to very good effect. The compilation of a training programme caused much revision of existing programmes. For instance, one organisation which probably employed the most engineers in the country, confidently claimed that it knew how to train engineers and did not need to submit a programme. Yet, on the submission of its programme, this was not accepted but considered only suitable for technicians. The result was that at the request of management regular meetings were held with the relevant PAC's to discuss problems. Engineers in training were always called to discuss their programmes. In one company they regularly presented projects on which they had been engaged to an audience consisting of the PAC members, management and other engineers in training to very good effect.

History is made by people, and the Council was fortunate in attracting some whose contribution was so outstanding that they can never be overlooked. Those who were charged with running the committees which made up the core of the Council's business were in a position to make such a contribution if they so desired. One such committee which was of great import was the Education Advisory Committee (EAC). The Chairman was Prof D W de Vos, small in stature but large in mind. In many cases he proved, as was his favourite adage, that "one man with conviction makes a majority". Such was his capacity for work that he travelled by train from Pretoria to Johannesburg and back again so that he could spend the hour or more working, usually evaluating the many hundreds of courses submitted by applicants(35). The number of world-wide degree courses evaluated up to 1986 was close to one thousand. These assessments were always reviewed by other capable members of the Council, particularly Prof Jennings and Prof D J Schoeman but rarely found to be flawed. He possessed that inimitable sense of humour with a disarming twinkle in his eye which endeared him to all those with whom he worked, even though they did not necessarily always share his views.

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(33) Requirements for Registration: Council meeting - 28 July 1972, p R72/191 to 199.

(34) Exco meeting - 15 September 1972, item 7.2.6.

(35) EAC Minutes 1969 to 1986.

In view of the constant changes at universities, the Council could not grant reciprocal acceptance of overseas qualifications. So that a better and truer appreciation of overseas educational standards could be obtained, Prof De Vos spent part of his sabbatical in 1974

calling on universities in Great Britain, Switzerland, Austria, Germany, Netherlands, France, Belgium and the United States of America.

This was a monumental task and assisted the Registration Committee and the PAC's who were receiving many applications from foreigners wishing to work or already working in South Africa. The study also clearly showed the differences which obtained particularly between Great Britain, the continental Europe and the United States of America.

In Europe the teaching of engineering sciences is done in government sponsored establishments and the granting of a title of engineer (e.g. Dipl Ing) is governed by law. The USA engineering curricula were derived originally from French models, as was the concept of a professional school of engineering. No counterpart exists in the UK where traditionally engineers were brought up in the master and pupil relationship and young engineers were encouraged to study learned papers and textbooks and eventually becoming members of a learned society.

Many engineers practising in South Africa had progressed through the latter route and were at a loss to appreciate the changes which had taken place with the introduction of degree courses at universities(36), particularly in view of the multiplicity of degrees being awarded which caused problems. The report by Prof De Vos(37) was invaluable but at the same time gave rise to a large workload because so many applicants were to be given an oral examination to ascertain whether they had reached the required level of knowledge. For those who failed, it gave rise to the setting of further examinations by university lecturers, which in turn required tuition. Much of this had to be arranged on an ad hoc basis with lecturers who would report to the EAC. This whole process was not satisfactory until adequate terms of remuneration for lecturers eventually were established. But it was never really workable and in most cases the oral examination was given. In the case of a number of structural engineers a special series of courses and examinations was sponsored by an individual and several persons benefitted by this.

It became very clear that there was justifiable pressure from those who started work as technicians but had by a process of osmosis acquired a high degree of competence in a specific field and yet did not meet all the requirements which a degree demanded. No clear definition of their position nor title existed and a further maker of history was appointed to head an ad hoc committee to consider the requirements to fulfil the Council's examinations(38). The person so appointed was Dr W L Grant who had progressed from apprentice to tradesman to technician to an engineer of the highest level. Finally, an Information Document (39) was issued in 1975 detailing the possible ways of complying with the requirements for registration, thereby opening up a channel for those who did not meet the full academic requirements. The EAC did, however, make certain concessions to those who had studied overseas and only obtained corporate membership of their institution after 1970 but had passed the examinations prior to that date.

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(36) Information Committee meeting - 24 March 1980, pages 80/31 to 80/34.

(37) Education Advisory Committee meeting - 1 July 1975 - item 6.2.4.

(38) Ad hoc Committee recommendations - EAC meeting - 24 January 1975, pages A75/33 to A75/53.

(39) Information Document E1/1.

(40) Straszacker Report 1969 - R20-21.

(41) Straszacker Report 1969 - R20-21.

In the history of legislation for the Registration of Professional Engineers in the Republic of South Africa, Dr Gericke mentions that a matter was referred to the Straszacker

Commission for guidance. This particular Commission was to Enquire into the Method of Training for University Degrees in Engineering and Part III of the report deals specifically with the Education and Training of the Engineer. It is also fair to say that this voluminous report was drafted by Prof de Vos and contains many recommendations which were considered from time to time by the Education Advisory Committee. A link was thus created between the work which had preceded the establishment of the Council and the Council itself. Only two similarities need to be mentioned here:

- (1) Post-matriculation education and training for registration as a professional engineer should be at least seven years(40).
- (2) The Council's accreditation policy and procedures should encourage innovation, flexibility and variety, while at the same time ensuring a high and reasonably uniform minimum quality(41).

The first recommendation was unanimously accepted by the Council but the second was viewed with suspicion by some universities as being a possible encroachment on their autonomy. Some time was to elapse before the accreditation of degrees by the Council became possible.

From these considerations amendments were made to the Act as some clauses were considered to be too restrictive, notably those dealing with training. Hence section 18(2)(d) was introduced to give the Council some flexibility in granting recognition for post-graduate qualifications in lieu of training. This gave rise to much debate within the PAC's and the Registration Committee for many years and never really resolved. Members were divided between the "get them dirty" and "make them think" schools of thought.

It was always the aim of the EAC to work closely with the universities and several meetings were held with the principals of the universities so that they could be informed at first hand of any developments. A good relationship was achieved through the patience and tact of Prof De Vos. Also, under the auspices of the EAC, the Deans of the universities met annually with almost an open agenda and the discussions were invaluable to all. This contact eventually made it possible for the EAC to exercise, in terms of the Act and Regulations, its function of accrediting degree courses in 1981. In the course of time, once the ice had been broken, each university was visited on a five year cycle for three days by a team of five professional engineers per discipline. Discussions were frank and at the end a report was submitted to the principal. Any suggestions for modification to the courses which were considered necessary were incorporated in the report. The universities came to appreciate the detailed interest shown by practising engineers and it was generally accepted that such close liaison between the universities and the engineers permitted the university to upgrade courses timeously. At the same time a measure of cross-pollination amongst the visiting members from other universities was achieved.

Other developments which required immense patience, tact and understanding to resolve arose when universities wished to present new degree courses not previously offered or, indeed, when the establishment of a faculty of engineering was proposed at a university which had not previously provided engineering education.

Great pressure was exerted on the EAC, and through it on the Council, not to recognise such submissions, usually on the grounds that existing facilities were not being fully utilised. However, no jurisdiction of sanction rested with the Council and, although it was felt that existing lecturing staff and indeed financial support to existing universities would be

stretched, the EAC had to evaluate and pass judgement on the course without comment as to its viability. Many considered this a shortcoming of the Act.

With the setting up of the Act many differences of opinion existed as to where certain responsibilities lay. One such area was the training of engineers in training. Whilst the Council was the final judge on the training it had to accept that guidelines were necessary for the various bodies involved in the process. A Statement of Policy 1/1 was initially issued in this regard but as time progressed and some applicants still were not accepted, a new clearer guideline was considered necessary. The initial statement was modified in 1974 and again in 1979 when it became Statement of Policy 1/3.

The body of engineering societies which operated under the title of the Federation of Societies of Professional Engineers (FSPE), was keenly involved in training and invited the President to chair one session of their meeting on the matter of training. Many recommendations flowed from this meeting and the institutions obtained a much clearer understanding of the requirements and they subsequently issued the guidelines previously mentioned(29). These did not however solve the vexed question which always remained very difficult to assess, namely, work performed by engineers in the fields of research and teaching and even also further study, because some universities offered five year degree courses and not four year. The recommendation by Prof Jennings that persons with post-graduate degrees not in engineering but performing acceptable engineering work be registered was accepted provided the period of work was extended(42).

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(42) PAC Civil Engineering, 12 March 1971 - Annexure G

With ever-increasing numbers of persons becoming registered, pressure began to be applied by professional engineers on employers to grant them recognition in the form of enhanced salaries. In general, employers accepted that for those who recently became qualified an advance was justified. However, in the public service the Commission for Administration was persuaded to increase salaries across the board not from the date of registration but from a prior date when the person was considered to have met all the requirements(43). Determining the date of registrability became an exceedingly onerous task which caused much discontent, although the Council was pleased that registration was being rewarded in this way. The position was finally settled through the insistence of the civil engineers that the earliest date was the date of application and a letter confirming this was posted with the registration certificate which reflected the later date of registration only and not some date of registrability.

The report by Prof De Vos initiated international contact but only concerned educational aspects in the countries visited. Thus in 1974 the Council considered it advisable that the Registrar visit institutions, which are concerned with the keeping of registers of engineers, in Canada, the United States of America, Great Britain and Germany. This task lasted six weeks and was invaluable in establishing communication channels with those countries. For instance, the President and Registrar were invited annually to attend the meeting of the National Council of Engineering Examiners in the USA. In practice only the Registrar as the sole foreign attendant could be present on average once every three years.

A further outflow of such contact was the invitation to the Registrar to attend and give evidence to the Finiston Committee(44) on the Royal Commission appointed to report on "Engineering our Future" and to address a meeting arranged by the Institution of Electrical Engineers, to which were invited members of the Commons and Lords as well as senior

members of all the learned societies(45). An outcome of this meeting required that the Council once again had to reconsider the acceptance requirements for applicants from the UK. Somehow the words of Thomas Telford on 21 March 1820 as the first President of the Institution of Civil Engineers had been sadly forgotten viz. "... always keeping in mind that talents and respectability are preferable to numbers"(46).

In 1970 the Council had decided to accept persons from the UK who had obtained an honours degree awarded by the Council of National Academic Awards (CNAA). This ruling was later amended, on advice from the British Institutions and the Engineering Council to accept only first and second class honours degrees. The UK Institution of Civil Engineers was not very happy with this ruling because they were in the process of amending their admission requirements which would require the passing of certain examinations. The Council always held that the three year degree was suspect but was prepared to accept it together with the CNAA approval. In particular, the third class honours degree was not readily accepted and indeed not recognised after 1981(47). Similarly, at this time Prof D J Schoeman visited universities in Italy and Switzerland, which led to the withdrawal of automatic recognition of the Italian Laurea Dottore degree because of the examination procedures and the evaluation that the HTL from Winterthur met only Part II of the Council's examinations. Thus, over a matter of years and by virtue of personal contact of members with overseas bodies, did clearer knowledge become available and was the Council qualified to pass judgement with a greater degree of assurance. Indeed, many overseas institutions regularly referred to the Council for advice on the acceptance of these and other overseas qualifications. On a regular basis, valuable information was obtained from the NCEE in the USA, who sent teams of observers to overseas countries and reported back on acceptability or not. The Council accepted these reports because, like South Africa, the USA sent teams to accredit degree courses, in contrast to the UK where validation was done by one person visiting a university for only a short time.

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(43) Executive Committee meeting, 26 March 1970, item 3.2.9.

(44) Engineering our Future - Report by the Finnieston Committee 1980.

(45) Report by Registrar - 1977.

(46) A short history of the Institution of Civil Engineers by J G Watson.

(47) Exco meeting - 19 March 1976, item 5.1.1.

It became increasingly evident that the other categories of persons in the engineering team, which were playing an extremely vital part in the practice of engineering, needed recognition. This matter had been discussed over many years (48). The engineering team is generally headed by professional engineers whose primary function is to undertake conceptual design and management tasks but clearly there are others involved who execute these designs and in fact also perform certain design tasks which do not require the expertise of a professional engineer.

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(48) Technicians - A Review with Contributions. SAIMEchE Journal, September 1970.

(49) EAC meeting - 24 January 1975, pages A75/39 and A75/40.

(50) Council meeting - 29 August 1975, pages R75/106 to R75/118.

(51) Act 77 of 1979 - Section 30A.

(52) Council meeting - 26 February 1971, item 3.2.1.1

The ad hoc Committee previously referred to under the chairmanship of Dr W L Grant had recommended the registration of technologists, engineering technicians and holders of certificates of competency(49). The FSPE also gave consideration to this matter and issued a questionnaire to which members of the Council submitted replies(50). The most significant fact which emerged was the feeling that such registration should not be separate from the

Council and was best summed up by Mr J J Bruwer, then President of FSPE, who recommended that there should be one registering body to register professional engineers, technologists and technicians.

In spite of almost complete consensus that these categories could and should be given recognition by way of registration, several years were to elapse before it was implemented(51).

Registration was necessary for many persons whom the Council recognised as being very valuable members of the engineering team but who did not hold an acceptable qualification. Such was the case with persons holding even a masters or higher degree in science and practising as experts in a limited field of engineering, such as for example hydraulics and soil mechanics(52). The Council had at the outset recognised that cases exist where a scientist was the head of an engineering team where all except the head were registered as professional engineers. Clearly a need existed for those not qualifying for registration as professional engineers in such teams to be recognised. As for those who were clearly technologists or technicians, the Boards of Control could meet their needs but the scientists were loathe to accept either category. Interestingly enough, the decision of authority in the civil service to grant a salary increase to registered persons motivated the scientists to obtain their own Act, which they did many years later with the assistance of the Council and Mr George Pool who, after his retirement from the civil service, became their first Registrar.

Naturally, and as can be expected, registration became sought after and two cases of fraud can be mentioned of persons who were determined to appear to be registered at all costs. In one case a person was employed because he had advised his employer that he was a registered professional engineer, which was not the case. But, because he could not solve reasonably simple engineering problems this fact was checked with the Council. The police were advised and the person was arrested, charged and fined for fraud by the magistrate. The other case was even more blatant. The person had claimed to be registered and because the records of the Council did not reflect his name he actually brought a certificate to the office of the Registrar and demanded to know why his name was not on the register. The certificate was an obvious fraud as he had stolen one from his co-worker, erased the name and typed in his name. The Registrar promptly arrested the person and marched him down to John Vorster Square where he was jailed for two days and finally found guilty by the magistrate and fined. The maximum fine which the magistrate could impose in such cases was R800 in 1985.

The important work of some of the other committees is discussed further on.

## **DISCIPLINARY MATTERS**

Certain learning curves are inevitable in any organisation and the Council was not unique in this respect. Being engineers and not lawyers there were many frustrating matters regarding disciplinary matters which needed lengthy debate. The Council members recognised that the Act was promulgated to protect the public and to ensure that professional engineers were adequately equipped to undertake work for which they had been trained. In engineering terms this was easily understood but in legal terms many difficulties came to the fore. The legal view, as expressed by Mr Pool in terms of the regulation, was that the Council was not empowered to initiate an inquiry into for example, the collapse of a bridge even though professional engineers could have been involved. Many Council members felt that the Council had a duty to act in such cases. For many years similar occurrences could only be noted by Council who accepted that it could only act on

receipt of a specific sworn complaint against a professional engineer(53). This was the procedure adopted and to clarify the matter in the minds of the public a guideline(54) for investigations and inquiries was drafted in terms of which an investigation could be held. Much very valuable advice and assistance in drafting these guidelines was given privately by a very senior judge. This status quo obtained for many years until the new Act (55) incorporated Regulations to permit the Council to initiate an enquiry if it had reasonable grounds to suspect that a professional engineer might have been involved in an engineering failure.

However, in several cases, and in spite of the legal opinions, the Council did, in keeping with its duties to protect the public as far as possible, appoint ad hoc committees which held an "educational chat" with engineers. These served a very useful purpose, because even though those involved appreciated that legal proceedings were not possible, they at the same time realised that note had been taken of the matter. Moreover they had been given an opportunity to explain their action or apparent lack of action. The latter could be very contentious, particularly when considering the implications of the supervision function. It appeared that a learned judge had ruled that supervision implied continuous physical presence, but this was not the normal understanding by engineers who obviously could not meet this requirement unless specifically paid for this, something the client was loathe to do. The matter obviously needed careful and tactful handling and took many years to resolve.

Disciplinary cases were also taking up the time of several members of the Council. A few cases reflect the work of this very important aspect of the work of the Council.

The first matter which received the attention of the Council was the collapse of a spectator stand at a sports stadium. This raised many questions and caused the Council to look very carefully at its powers and responsibility to the public. Questions such as; Was a professional engineer responsible for the design and, if not, should it not have been done by a professional engineer? This fact alone gave rise to possible matters of procedure, in the first place the power or right to act by initiating an inquiry. Fortunately a close liaison with the Inspector of Factories existed and an agreement was reached that in cases of accidents where a professional engineer had been involved the Council would be informed. In this case the Council made an approach to the Minister with a request for a commission of inquiry. Such a commission was set up by the responsible Minister and copies of the report were sent to all Municipal Authorities for their information. However, the unanswered question remained, namely, who determines whether the design of such structures should be reserved for professional engineers.

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(53) Exco meeting - 16 June 1972, pages E72/72 to E72/74.

(54) Investigations and Inquiries (770701).

(55) Act 114 of 1990, Section 18(1).

The second matter was the collapse of an on-ramp over railway property during building operations. No complaint was received. Many Council members asked for action to be taken but as the railways were compensated for damage they had no cause to complain. It transpired that a workman had not adequately secured a tie rope during the positioning of the final key section. This again caused much discussion on the question of supervision by professional engineers, particularly at crucial periods.

A period of almost six years was to elapse before the first inquiry was held and, although the matter was not significant in itself, it did afford the Council the opportunity to test the procedure and to adjust where necessary(56).

In brief, the procedure(57) required that on receipt of a complaint the matter be referred to the Committee of Preliminary Inquiry consisting of three persons. Should they find prima facie evidence of an infringement of the code of ethics, a recommendation would be made to the Council for the appointment of a Committee of Inquiry which had powers of a lower court to hear evidence and to pronounce judgement in terms of the Act(58).

The annual reports reflect the number of cases which were considered and although relatively few findings of guilt are recorded, it is interesting to note that the Council, in many cases, conducted an educational talk with the person concerned. This had a very good effect not only on the engineer but also on his employer.

In spite of the very careful consideration given to each complaint, a case appeared before the Disciplinary Committee where the wrong person in a very large practice was summoned to appear because the complainant had not been explicit in his affidavit and the Committee of Preliminary Inquiry had not made specific inquiries into the matter. The case therefore had to be dismissed.

A civil case of fraud against the President was another very interesting affair. This arose from a clerical error. After an application had been finally done with, whether successful or not, all extraneous submissions were returned. This was done by way of a letter detailing the specific documents. In this particular case, and in spite of the documents so marked, the clerk inadvertently enclosed a referee report by the employer and as a result the President was requested to attend on the applicants legal adviser regarding possible legal action against the employer. On the basis of the discussion the case was withdrawn, but a case of fraud was laid against the President for allegedly inferring that the Council would not necessarily be influenced by the referee report. The magistrate acquitted the President but the applicant applied to the Supreme Court for review(59). The judgement handed down reversed the decision of the lower court and amended the findings as to costs. This all evolved out of a very complicated set of legal arguments which really should have been dismissed by the magistrate in the first instance, because the pleas and findings were all centred on legal procedures rather than the facts of the case. A very valuable though expensive lesson was learned.

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(56) Powers of Committee, Council meeting, 18 February 1981 - Annexure G, pages R81/69 to R81/71.

(57) Investigations and Inquiries - Guidelines for SA Council for Professional Engineers (18/21/9) (770701)

(58) Regulation R380 as amended by R534.

(59) Executive Committee - E84/703 to E84/716

## **PRIVATE PRACTICE MATTERS**

The Council was indeed extremely fortunate to be able to attract so many able persons and yet one in particular stands out as a gentleman in the true sense of the word. Such a person was Mr F C Robertson. He was Chairman of the Private Practice Committee and of the Professional Advisory Committee for Civil Engineering. He always kept a very even temper in debating matters which concerned those in private practice and his humble but firm approach together with his wry smile made many friends.

From the outset this committee tackled a wide range of issues . Some were soon resolved but others were to remain in contention for many years without finality being reached. One of the issues was that members of the SA Association of Consulting Engineers were governed by a stricter set of rules pertaining to their practices than professional engineers who were entitled to compete with members of the Association. Another concerned

engineers who were employed by companies performing "consulting" work. The first meeting of this committee(60) expressed views on many matters ranging from competition among practices; limited liability; definition of private practice; fixing of minimum fees; canvassing for work; the separate listing in the register of those in private practice; the role of directorships in private practice; the relationship between the SA Association of Consulting Engineers (SAACE), the Federation Internationale des Ingenieurs Conseil and SACPE. Differing viewpoints were expressed by Council members on these matters and in general the Council attempted to rely on the advice of the SAACE. It was clear that whilst the Act refers to a person in private practice(61) the regulation refers to private consulting practice(62). Obviously a definition of both was required and this was never resolved. The attitude of Council was that the term consulting engineer was generally understood and did not require definition in terms of the Act which defined private practice(63). The question of minimum fees was finally resolved after lengthy discussion and debate with interested parties, in particular with the Department of Public Works. This required an amendment to the Act by the deletion of the word "minimum", and the publication of a tariff of statutory fees(64). All the other matters were to be considered and reconsidered at almost every meeting and in the opinion of those in private practice not satisfactorily resolved. Nevertheless, within the confines of the Act the Private Practice Committee performed valuable service in advising the Council on specific matters which continually cropped up. These were mostly applications from persons who wished to appoint non-professionals as partners or who wished to associate with companies. The latter required detailed information and in certain cases permission was granted on special terms as set out in the Act and Regulations.

The question of advertising engineering services was ever-recurring and in the later years certain forms of advertising were permitted, although not generally adopted.

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(60) Private Practice Subcommittee - 24 May 1969.

(61) Section 21(4) of Act 81 of 1968.

(62) Code of Professional Conduct - Clause E1(q).

(63) Act 81 of 1968 - Section 1(vii).

(64) Statutory fees, Regulation R1113 of 11 June 1982.

(65) The Professional Engineer on Dams, Information Document 4/1.

Concern for public safety was a matter which received attention from time to time. One such was the design and building of dams. Consideration was given to the publication of regulations in this regard but finally the Council, in consultation with the Department of Water Affairs, issued Guidelines for Evaluation of Applications in terms of section 9c of the Water Act(65). Control was thereby exercised over the design, building and inspection of dams and engineers were required to submit complete CV's to a special committee for approval before proceeding.

From time to time discussion also centred on lists of specialists in particular fields but not pursued as the SAACE maintained a comprehensive list and the Council did not wish to judge on this matter. However, there were engineers, not being members of the SAACE, who would have preferred that the Council publish such lists.

In the course of time the fears that engineers working for companies would or could pose a threat to those in private practice diminished because the advice given by engineers working for companies was related to the specific equipment being offered and very few complaints were received in this regard. The principle of unlimited liability as being fundamental to the professional concept and the fiduciary relationship between the consulting engineer and his client was always supported by the Council. It was the

prerogative of the client to choose whom he appointed, bearing in mind the relative risks involved. Certain long established practices such as the existence of consulting engineers in mining houses and large companies which maintained smaller in-house companies offering professional services should, in the opinion of the Council, continue to operate. Where conflicts occurred, an educational chat to acquaint the parties with the spirit of the act was the preferred route to a resolution of the problem.

## **FINANCIAL MATTERS**

In the initial stages much debate was devoted to annual fees because the Council was concerned that its need to raise income would have an adverse effect on the finances of the existing institutions. Consequently the fees were set at a relatively low rate for members of the institutions and higher for non-members. Indeed, in some cases, it was less expensive to be both a member of an institution as well as being registered than only to be registered. However, compared to the other professions, the fees were extremely low. This meant that the Council needed to use its resources very circumspectly. Nevertheless it had a responsibility to set a high standard not only with the offices it occupied but particularly so with the staff it employed and the work it performed. Visitors were often heard to comment favourably on the appearance and dress of all staff members, especially the ladies. This required advantageous conditions of employment but the high quality of staff led to high productivity and they often worked longer hours without additional pay.

The philosophy adopted by the Council was to keep the annual fees constant for a number of years and to make the increase substantial, thereby creating a surplus which could be invested at a favourable rate of interest. Some institutions criticised this policy, but at the time it was very wise because the interest received was much higher than that being paid to the department for the loan. This policy was maintained through most of the period until the rate of inflation became too high, and meant that over the years the annual fees increased at a far lower rate than the rate of inflation.

From time to time various organisations approached the Council for grants. These varied from direct grants to universities for overseas studies to institutions who wished to finance training. In all these cases the Council had sympathy with them but wisely refrained from support. The attitude of the Council was that these matters should be financially assisted by the institutions and that the Council should not be seen to usurp their functions.

There were, however, certain matters which the Council did support because those had a direct bearing on the functions of the Council.

For instance, Council supported attendance at the World Federation of Engineering Organisations (WFEO) where educational matters were of concern, as well as the regular congresses on Education and Training in Engineering.

Another reason which influenced the Council to maintain a reserve was the experience of the Medical Council which was faced with a very high legal cost on a matter which was taken to the supreme court. The legal advisers of the Council felt that if it was known that the Council had substantial reserves it would discourage frivolous cases. Other views were also held but fortunately none were tested.

The Council was also very fortunate in obtaining the free services of its members. Although the Act provided for the payment of nominal fees for attendance at meetings, only a few

members of the Council or its committees ever requested payment in later years. In most cases no claims were made for travelling or subsistence. Clifford Harris from Cape Town attended many meetings of Council and at least two committees but never claimed for airfare. The President and Vice-President also waived the fee allocated to them. In many cases meetings were so arranged that members could combine these with private or business matters, thus incurring no cost to the Council.

## **PUBLICITY MATTERS**

Prior to the Council taking office, a Publicity Committee was created under the chairmanship of Dr N Stutterheim, who held office for eight years before being succeeded by Dr R S Loubser. Publicity was considered essential to inform the public generally on all matters concerning the registration of engineers. There was, however, a strong feeling that the Council was not formed for the purpose of promoting the engineering profession. This was clearly the function of the engineering institutions. Therefore, the Publicity Committee was only to deal with the promotion of registration as such. There were interviews on radio and press releases were made. These were generally well received and had a most positive response if the number of applications received was any guide. Even the Department of Immigration expressed interest and a special memorandum setting out the requirements for registration was drafted for them to distribute this overseas(66). This document and especially the section dealing with acceptable engineering work for engineers in training(67) was to form the basis for the drafting of training programmes by employers. It was subsequently revised (68).

After some years the committee was renamed the Information Committee because the problem of communication with registered engineers was endemic. Inserts or articles to the journals of the institutions did not reach all registrants but it did reach, apart from the registered engineers, many who were not. Finally, a newsletter was adopted.

This contained much relevant information and was posted together with the annual account for fees. In many ways the Publicity Committee was restricted in its operation by the shortage of available funds. Nevertheless, communication with the engineers and the general public was essential. The Council accepted this and agreed to hold open meetings in the main centres of the country from time to time. These were well attended and took the form of a short introductory statement by the President followed by addresses from the chairmen of the various committees. There was then an open discussion with questions from the floor. It is regrettable that the media, although invited to attend and report, did not consider the meetings lively enough to draw their attention.

As registration became a requirement in many sectors of the society there were continual requests for alternative routes to registration. Naturally the requirement to meet the educational standards could not be waived and a method had to be found for persons to reach the necessary standard by further study. A statement of policy(69) setting out the prescribed examinations in three parts was drafted and proved invaluable to several persons who followed this very difficult route.

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(66) Publicity Committee - 21 February 1972, Annexure A.

(67) Statement of Policy 1/1.

(68) Statement of Policy 1/3.

(69) Statement of Policy No 2.

The Committee felt that the Council needed an easily recognisable logo. After several attempts a suitable logo was drawn by a commercial artist and this was incorporated into all SACPE documents.

This committee was also charged with the drafting of an annual report which was submitted to the Minister for tabling in Parliament. All the registered engineers received a copy. In spite of this it was felt that communication with engineers in particular was weak. Representatives of the Federation of Societies of Professional Engineers accordingly were invited to attend meetings of this committee, with much success because it shortened the line of communication and had the full support of the profession as FSPE was involved in the decision making process. This joint meeting afforded the Registrar the opportunity to pursue a concept of his, namely an annual award for service to the profession. The Federation took up this idea and the first such recipient was Dr M R Gericke. Since that time several members of Council have been honoured similarly. The efforts of all the institutions and members of this committee bore fruit as evidenced by the press cuttings tabled at each meeting. However, the committee was not able to breach the apparent lack of interest by the media in general. The press seemed to be geared to reporting sensational matters only and ignoring the many great achievements of the engineers. Even the employment of professional communications organisations gave disappointing results.

To inform the registered engineers on important matters such as the alternative routes to registration, the publication of fees for professional services, etc., a periodical bulletin was prepared and distributed to all engineers and interested parties. Liaison with parliamentary members was considered essential and the Council accepted a proposal by this committee to appoint a Liaison Committee consisting of Admiral J R Nortier and Prof H C Viljoen. Their operation was very successful because they served as a watchdog in alerting the profession to proposed legislation that could affect it and possibly influenced parliamentarians on matters related to engineering.

Perhaps the most searching and valuable exercise carried out by this committee, in conjunction with a subcommittee of the Council, was an investigation into the entire structure of the engineering profession<sup>(70)</sup>. A final recommendation<sup>(71)</sup> concluded that the existing structure was basically sound but that there should be an elected umbrella body of the professions, including technicians, without affecting the roles of SACPE or the Institutions.

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(70) Quo Vadis subcommittee - 26 July 1983.

(71) Information/Quo Vadis Committee - 24 July 1985, pages 85/206 to 85/208.

(72) EAC meeting - 24 August 1973, item 2.2.10.

(73) EAC meeting - 5 & 6 May 1977, item 7.8 and page A77/130.

(74) EAC meeting - 24 October 1969, item 6.3.1.

(75) EAC meeting - 24 October 1969, item 6.4.

(76) EAC meeting - 27 May 1972, item 2.2.8.

## **EDUCATION MATTERS**

The committee with the greatest influence on the Council was the Education Advisory Committee (EAC), for many years under the capable chairmanship of Prof D W de Vos. Its functions were defined very clearly in section 17 of the Act, thereby giving it great responsibility.

Firstly, as previously mentioned, it was required to consider, report on and to make recommendations on the report of the Straszacker Commission of Inquiry into the method of training for university degrees in engineering. After more than four years of protracted consideration by the university representatives on the acceptance of the recommended standards, consensus was reached on most parts of the recommendations(72). A similar process was accorded the Van Wyk De Vries Commission of Inquiry into Universities. Only persistent prodding by the chairman evinced some final results on subsidies to universities(73). Several Council members commented on this and without acrimony the feeling was best summed up by one professor: "If you do not want a reply, ask the universities for their comment".

From the outset, apart from continually evaluating degree courses, the EAC attempted to ensure that South African universities offering degrees in engineering were manned by competent staff. It also felt that lecturers should be permitted to devote at least one day per week to research and a further day per week to consulting work(74). At the same time concern with the student's practical vacation work was also shown(75).

Most of its time in the initial years was devoted to obtaining a clear understanding of the meaning, within the terms of the Act, of the prescribed examination, however not in so far as the South African degrees were concerned. The problem was to determine the levels for the three parts of the Council's examination as published in Information Document E1/1 and Statement of Policy 2/2. The vast number of foreign and local qualifications needed to be graded into these three levels. Where not enough information was available, oral examinations by a specific panel(76) were conducted with the candidates and they were then advised what further study was necessary. Great care was exercised to brief the examiners prior to any examination and the EAC had to approve such recommendation before the candidate was advised. These examinations were tempered to the degree that in many cases the candidate had been working for several years and would not be able to recall the exact formulas but it was possible to determine the level of knowledge by the method of approach. Amusing, but sometimes also sad incidents were numerous. One candidate was asked how to determine the size of pipe when taking water from a reservoir. After a long silence and a little help from the examiners he answered that a two inch pipe would be used and that it would deliver two thousand gallons an hour. When asked how he came to this conclusion he replied that it was standard municipal practice. He had no knowledge of the engineering principles behind his answer. Sadly he was advised to enter the university at the first year level if they would accept him. In some cases the submission of a project, as determined by the head of the department at a university, together with subsequent examination was prescribed for part three candidates.

During this period attempts were also made to obtain closer liaison between universities and technikons. The EAC was of the opinion that the 50% drop-out on first year level at universities was too high and that many persons were lost to the profession because they should have been referred to technikons during the first year. Courses should be so structured that referral from one to the other should be possible during the first year. Unfortunately these attempts failed by and large.

Submissions were received from South African universities which had not previously offered degrees in engineering and after careful consideration approval of the courses was given, although there were reservations expressed as to the availability of suitably qualified personnel. These concerns eventually led to a meeting of departmental heads and they recommended regular visits of the EAC to universities so that standards could be discussed. The committee was careful to emphasise that this did not mean a desire for uniform

curricula(77). The universities gained confidence in the role of the EAC and in due course it became possible to initiate accreditation. Initially, an invitation was received - with a little arm twisting - from the University of the Witwatersrand to accredit all the courses in engineering in 1982. Teams of five persons for each discipline were selected very carefully. They included, apart from lecturers at other universities, representatives from the respective Professional Advisory Committees and the institutions. The university prepared comprehensive documentation on the courses offered and complete curricula vitae of each staff member including support staff. Such a visit extended over two days and was followed by a full report which, after submission to the EAC, was posted to the principal of the university. So successful was this experiment that all universities asked for accreditation. One principal was heard to comment that the drafting of the documentation prior to the visit was the most valuable exercise as it brought him into closer contact with the staff and gave him an insight into the very valuable research work being done. The reports by the teams enabled the staff to revise their courses where necessary to meet the ever changing demands of the profession and to bring the staff into closer contact with practising engineers.

This was not the only contact with the universities. The relationship with the students was enhanced through an address by the President at the university. No lecturers were present so that the students were free to ask questions. Eventually this task was passed on to the Registrar who visited each university annually and made personal contact with the students. To make these visits more meaningful he persuaded the EAC to propose the award of a merit medal to the cum laude student with the best all-round performance(78). The selection of the student, at each university, was to be done by the Dean.

A further very valuable operation initiated by the EAC was the holding of many seminars involving lecturers from all the universities. These were always well attended and much appreciated by all the universities because it presented opportunities for lecturers to meet and exchange information. Subsequently even closer contact with universities was achieved via meetings with the Committee of University Principals.

In 1975 a Committee of Deans was established. This committee met at least once a year at a university on a rotating basis and matters of common concern were discussed. These were, in the main, the high drop-out rate and methods to overcome it; financial support for the universities from all possible sources; inadequate salaries for university lecturers and liaison with technikons.

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(77) EAC meeting - 10 November 1977, item 14 and pages A77/557 and A77/558.

(78) EAC meeting - 19 September 1980, item 6.1.5.

As a result of the ever-recurring pressure to address the subject of inadequate salaries the EAC arranged a seminar with industry. The most prominent leaders in the mining and manufacturing industries as well as consulting engineers were invited to attend. In principle it was accepted that the industry would provide financial support, subject to certain conditions, but the universities failed to accept the conditions and the exercise failed.

## **PROFESSIONAL ADVISORY COMMITTEES**

Professional Advisory Committees (PAC's) were appointed by the Minister for each discipline in terms of the Act(79). The first chairmen were:

Agricultural Engineering	Mr J J Bruwer
Chemical Engineering	Mr K W Findlay
Civil Engineering	Mr F Jackson
Electrical Engineering	Prof F G Heymann
Mechanical Engineering	Mr L T Campbell Pitt
Metallurgical Engineering	Mr H E Cross
Mining Engineering	Mr T L Gibbs

In 1970 Mr F Jackson retired owing to ill health and was succeeded by Mr F C Robertson. The other members served for a very long period before retiring or passing on.

Initially the PAC's only considered applications referred to them by the Registration Committee. These were considered as "difficult" or doubtful cases. Those with acceptable qualifications and adequate training or work experience were accepted by the Registration Committee. However, after some years this procedure was modified and all applications were routed via the PAC's, thus speeding up the process considerably. Where the PAC's needed expert advice they were empowered to appoint ad hoc panels of engineers who were specialists in their fields, such as Production Engineering, Structural Engineering, Municipal Engineering, etc. By this means a clearer understanding of the requirements for registration was made known more widely. In all cases a member of the Council was appointed as chairman.

Certain organisations such as the Municipal Association of South Africa and others were apprehensive that their operations would be curtailed or delayed, should it be considered that any work performed by their personnel was considered to be work reserved for professional engineers. This was solved by advising them that their personnel should apply for registration. Those who qualified presented no problem while for those who did not qualify it meant that the work they were performing was not considered to be of professional engineering level and they could continue to do so. But there were borderline cases and interviews with them were held. Should they subsequently aspire to higher levels, and some did, an examination was given and where any shortcomings were identified further courses of study were prescribed.

To ensure that the PAC's adopted equal standards, regular combined meetings of the chairman were held and such cases as were considered pertinent by the Registration Committee were tabled. It was essential that standards were maintained without comparing one application with another, but for a specific group such as for instance mine managers or municipal engineers and others, this was unavoidable because those structures had distinct grading systems within themselves.

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(79) Act 81 of 1968 - Section 12(1)(b).

(80) Joint Registration Committee meeting - 8 February 1971, Annexure A

Nevertheless, applications were considered on merit only and in many cases the junior was registered and not the senior who had attained a post for his managerial rather than engineering skills(80).

Each PAC set about establishing basic criteria for acceptance of those who did not hold an acceptable qualification. Different opinions existed primarily because of the varying backgrounds of the members. There was a marked difference of approach between United Kingdom trained engineers and continental European engineers. Varying standards were not easily reconciled and the chairman had to display tact and understanding, particularly when

established overseas bodies commented on and enquired about standards. Meetings with representatives cleared up many problems and close continued contact was promoted and encouraged by the Council, provided that Council members were always present.

Some PAC's considered it essential to interview each applicant but this was not accepted by Council in view of the time involved which would delay registration even further. In later years, when the backlog had been almost eliminated, the Council agreed that interviews be held. This approach was particularly favoured by the PAC Civil Engineering who held that it was important for applicants, especially engineers in training, to meet their peers.

The devotion to duty and the hours of work given freely by all the members cannot be adequately covered in any survey and it is regretful that recognition cannot be given to these engineers by some authority outside the profession. Three cases can, however, be recorded: an Honorary Doctorate to M R Gericke by the University of Pretoria, an Honorary Doctorate to Prof D W de Vos by the Potchefstroom Universiteit vir CHO and - most significantly - an Hon Doctorate to L T Campbell Pitt by the University of the Witwatersrand, shortly before his death. The new Engineering Council on 18 April 1991 did award merit medals at a special banquet(81) to eleven persons who had rendered significant service to the profession. These were:

Dr M R Gericke  
Prof D W de Vos (Posthumous)  
Mr L R Robinson  
Dr R S Loubser  
Mr G S Pool (Posthumous)  
R/Adm J R Nortier  
Mr T S Cooper  
Mr G Head  
Mr E Dalton  
Mr P Roux  
Mr A M Kruger

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(81) ECSA meeting - 29 November 1990, item 8.1.1.

## **GENERAL**

The Council was assisted by several committees whose work was very valuable and who, although not covered individually in this survey, certainly deserve brief mention:

### **Legal Matters**

This committee was composed of Council members who had a knowledge of law pertaining to the practice of engineering plus a senior member from the Department of Public Works and latterly from the Department of Justice. The first chairman was Prof D W de Vos who was later succeeded by Mr Tommy Gibbs who was known for his sense of humour and also for his forthrightness and power of persuasion. This committee drafted any amendments to the Act and Regulations as required by the Council.

### **Fees Committee**

It took many years for the Council to draft the necessary legislation setting out the fees for professional engineering work. There were many interested and concerned parties to be consulted before final agreement could be obtained and the chairman, Dr M R Gericke, managed to steer it successfully through a veritable mine field.

## BOARDS OF CONTROL

The engineering profession was aware of and readily accepted the vital role fulfilled(82) by the other categories of engineering. Their registration proceeded slowly because of attempts to satisfy the various interest groups who were either concerned with possible intrusion into the workforce or with the name to be adopted. Discussions with the Department and submissions to the Minister for the establishment of Boards of Control (BOC) were made by the Council. A Parliamentary Commission of Inquiry(83) eventually tabled a report in Parliament accepting that not more than four such Boards would be established. The necessary amendment to the Act was made in 1979(84).

The various groups were very active in obtaining consensus and, led by Mr Tom Cooper, an Interim Committee for the Registration of Engineering Technicians (ICRET) was formed in June 1980(85). When the Act was amended this became the Association of Societies for the Registration of Engineering Technicians (ASRET) which was an umbrella body of the voluntary societies.

Much of the discussion at this committee centred around the titles to be adopted and the standards to be accepted. Matters were not made easier by the constant changes which had taken place in the educational institutions. Not only were the titles of the certificates confusing, the year in which they were obtained was also very relevant. Combined with this was the emphasis to be placed on the period of work and the degree of responsibility. Within this category various levels were obvious and finally it was decided to identify the following; Engineering Technician and Engineering Technician (Master). Because of the wide spectrum to be covered the requirements were published in the Government Gazette(86) together with the regulations. The first meeting of the Board of Control for Engineering Technicians was held on 14 November 1983 at Kelvin House and was opened by Mr J Rademeyer, Deputy Director of the Department of Community Development. Mr Tom Cooper was unanimously elected chairman with Mr E Smit as vice-chairman. Thereafter Minister Pierre Cronjé delivered an opening address to the well-attended meeting and proposed that Mr T Cooper and Mr E Smit be registered as Engineering Technicians.

The main function of the meeting was the appointment of the several advisory committees to assist the Board in its task.

Before any registrations were made the Board of Control considered it wise to hold a seminar for the drafting of a Statement of Policy on the broad practical experience requirements for engineering technicians(87). At this seminar the definition given in the Goode Committee Report of 1978 was used as a guide.

Unlike the registration of professional engineers, the number of applications received for registration with this Board of Control was disappointing and the institutions were, from time to time, addressed by the Chairman to encourage registration. Various reasons were given for this apparent lack of interest and it would appear that lack of recognition by employer organisations was the main reason. This created financial problems for the Board of Control and although SACPE assisted in various ways, the Board was still required to meet its expenses.

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(82) Technicians - A Review by L T Campbell Pitt - SAIMechE, Journal September 1970.

(83) Council meeting - 7 March 1980, page R80/136.

(84) Act 24 of 1979 - Insertion of Section 30A.

(85) Interim Committee for the Registration of Engineering Technicians, R80/317.

(86) Regulation R1500 of 8 July 1983.

(87) Mini-seminar, 16 February 1984.

The Board and committee members were devoted to their task and the Education Advisory Committee was in constant liaison with the Technikon, eventually carrying out accreditation visits for the diploma courses.

These visits highlighted several very interesting features in the course structures. Because employers were required to support their bursars by granting them employment for six months of every year over four years and to pay the schooling fees for the remaining six months of every year over the four year period, there were several large employer organisations who demanded and rightfully obtained course structures to meet their specific requirements. Some of these were very narrow and caused concern regarding eventual registration but did not necessarily preclude registration.

The next category to submit a request for a Board of Control was from the South African Association of Registerable Technologists (SAARET). This was approved by the Council and the recommendation was accepted by the Minister. The first meeting of the Board of Control for Professional Technologists (Engineering) was held on 1 March 1985. At this meeting Mr G Head was elected Chairman with Col D J Jordaan as Vice-Chairman. The opening ceremony at Kelvin House was performed by the Deputy Director-General of the Department of Communications and Public Works, Mr Van Niekerk(88).

Part of the reason for the lateness of the application from this category was the feeling that the wording of Professional Technologist (Engineering) might, in the minds of the public, be confused with the title "Professional Engineer". However, the title successfully differentiated the Technologist from the Technician and indicated that the Technologist was subject to a strict code of conduct. The educational requirement was a Diploma in Technology 1982 plus a period of engineering work of sufficient variety and of a satisfactory nature and standard.

Advisory Committees were appointed and the members applied themselves to the task ahead with enthusiasm.

The third category to apply was the Certificated Engineers. The necessary regulation was published on 12 December 1986(89) and the first meeting of the Steering Committee was held on 16 July 1987 with Mr L R Robinson as President of the Council acting as Chairman. The first meeting of the Board was held on 18 November 1987 at which Mr W A Ras, Chief Director: Engineering Services of the Department of Public Works, delivered the opening address.

Mr E Dalton was unanimously elected chairman with Mr D R Griffiths as Vice-Chairman. The various advisory committees were appointed and the requirement for registration was a Certificate of Competency issued in terms of the Factories Act or the Mines and Works Act.

The establishment of the Board of Control was delayed for several reasons but mostly through other categories wishing to be included but who could not reach finality. These were the Mine Managers for both gold and coal mines and the marine engineers and naval architects, who all hold diplomas. Eventually these bodies agreed that registration would not assist them and their opposition to the Board of Control fell away.

These Boards operated separately until 18 April 1991 when, to improve financing administrative control and procedures, a new Act established the Engineering Council of South Africa with one body serving all groups of engineers.

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(88) Meeting - Board of Control for Professional Technologists (Engineering), 1 March 1985, pages Techno85/108 to Techno85/112.  
(89) Regulation R2607, 12 December 1988.

## **AN APPRECIATION**

History is not a record of events. History is made by those motivated with a sense of purpose which they follow resolutely to the end. Such was the case with the engineering profession. Thus it must be recorded that although many people, each in their own way, contributed immensely to obtaining recognition for the engineering profession in all its forms, the one person who stands out above all is Dr Mike Gericke. His unbounded energy and drive, combined with a rare quality of precise attention to detail, enabled him to obtain the support of the engineering institutions and finally the Minister to guide the Act through Parliament. It was indeed a case of the right person at the right time for the right job. He converted all critics in the process and in the end his foresight and wisdom prevailed. A deep debt of gratitude is owed to him by the whole engineering profession.

## **ACKNOWLEDGEMENTS**

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