

A Quarter Century Young

By M D Brice, NZCS Secretary

Introduction

There are two sides to most stories and the Concrete Society, with its predecessor the New Zealand Prestressed Concrete Institute, is no exception. Others have recorded the quite astonishing technical developments that have occurred in the industry during the 25 year time span under review. The task of this paper however, is to attempt to record the second side of the story; some of the more important and interesting administrative developments over the past 25 years.

The New Zealand Concrete Society as a name came into use in 1980, being regarded as a better instrument to describe the broader interests and activities of the members of the New Zealand Prestressed Concrete Institute, which had been incorporated in 1964. It is inevitable that in places the two sides of the story will overlap; no apologies for that, but instead a hope that an overall picture of an organisation, its aims, achievements and its people, will emerge.

Post-War Promotion of Concrete

As might be expected, the immediate post-war years saw an unprecedented demand for building materials, as an economy that had been almost totally geared to war time support forces and supplies, was shaped to meet new and demanding peace time needs. Timber was cheap and plentiful, concrete likewise except that local production of cement was for more than 10 years after the war boosted by overseas imports. The benefits of concrete as a strong, durable construction material that could be made and placed by 'anybody' brought marked increase in its use. It may have been this development itself that caused cement manufacturers to employ technical sales staff who could sell more cement by endeavouring to ensure its proper use by customers.

In 1948, the manufacturers decided that this role could best be undertaken if they followed the lead of other countries, notably the US, UK and Australia, by jointly setting up a cement association to technically promote and develop the uses of cement and concrete. One of the strongest supports for this move came from the concrete rather than the cement industry in the form of the well established stalwart concrete engineer H W (Sandy) Cormack. Sandy Cormack, a concrete materials specialist by both profession and experience, was himself involved in the design, manufacture and supply of assured quality ready mixed concrete to the construction industry. His understanding and wide knowledge of the concrete industry overseas and in New Zealand, together with an innate farsightedness, combined to introduce this country at an early stage, many of the developments occurring overseas.

Sandy Cormack's support of the technical, promotional and educational roles of the Portland Cement Association extended over 30 years, for most of which time he was a board member and himself a promoter of many of its activities.

His influence, together with that of one of his own former engineer employees, M A (Monte) Craven, who was the first General Manager of the NZPCA, greatly encouraged the establishment of specific interest industry groups in the 50s and 60s.

The rationale was straightforward – a specific sector of the industry represented by (only) those closely concerned could more effectively concentrate research, development and promotion of their area of interest than could the industry as a whole. So were conceived the Concrete Masonry Association, Ready Mixed Concrete Association, the Precast Concrete Association and later the Aggregates Association. In amongst them in 1964, the Prestressed Concrete Institute was born.

Why Prestressed Concrete?

Probably outside the scope of this paper, but fairly essential to its purpose – so the answer will be brief.

Prestressed concrete was and had been in use in New Zealand particularly, if not solely, in the bridge building field. Design developments exploiting the benefits of thin section and curved elements offered exciting applications to buildings and other structures as evidenced overseas. Additional benefits were savings in cost and time by virtue of lesser material and labour content. Introduction, education and encouragement to the design, manufacture and construction industry was therefore the initial brief of the new organisation.

Beginning

Two meetings convened by Monte Craven of the NZ Portland Cement Association considered and finally approved the setting up of a Prestressed Concrete organisation. The first, at the conclusion of the Precast Concrete in Buildings Symposium held at the Dominion Museum, Wellington in October 1963 and attended by 66 industry representatives, was addressed by Mr (now Sir) Alan Harris, keynote speaker at the Symposium and himself a former President of the Prestressed Concrete Development Group (UK). In 1963 parlance, Mr Harris thought that setting up an organisation would be 'a worthwhile step', additional benefits being 'a closer link with the FIP and a more co-ordinated development of prestressing techniques and uses in New Zealand'.

Mr Harris recommended membership being open to designers, builders and manufacturers. The meeting agreed to pursue the idea further and concluded with the election of a principally Wellington based Steering Committee;

- M A Craven NZPCA, Chairman
- H W Cormack Certified Concrete, Auckland
- R G Norman MOW
- G Cooper Consultant
- M O Glew Certified Concrete
- C F Martindale Consultant

The Steering Committee met twice before the second and final general meeting held during the NZ Institution of Engineers (IPENZ) annual conference at Victoria University in February 1964, and presented to it a raft of recommendations contained in a formal report. Of principal concern were the draft Constitution, draft budget and Secretariat. The latter two are of little significance in comparison with the first which was to shape the Institute and launch it along quite positive guidelines. However, before leaving the subject, it may be of interest to note some detail of the first year's budget:

Income

Subscriptions – Business Members @ £25	
12 Prestressed Concrete Manufacturers	300.0. 0
6 On-Site Prestressing Contractors	150.0. 0
9 Suppliers of Equipment and Materials	225.0. 0
5 Miscellaneous	125.0. 0
75 Ordinary Members @ £2.2.0	<u>157.10.0</u>
	<u>£957.10.0</u>

Expenses

Affiliations - FIP etc.	50.0. 0
Publications	250.0. 0
Meeting Expenses	35.0. 0
Legal Expenses	25.0. 0
Technical activities - conference etc.	170.0. 0
Secretariat	300.0. 0
General expenses	110.0. 0
Excess income over expenditure	<u>17.10.0</u>
	<u>£957.10.0</u>

Constitution

The Constitution and by-laws of the new organisation were drafted largely from those of the Prestressed Concrete Institute (US), the UK Prestressed Concrete Development Group and Australian Prestressed Concrete Group. With such a wealth of precedent already set, there was little more to do than fine tune to New Zealand requirements the relevant clauses – not surprisingly, largely from the Australian document. The ‘Objects’, ‘Scope and Activities’ are reproduced below as they provide the foundation on which has been built 25 years of activity and development.

Objects

The objects of the Institute shall be to encourage, develop and promote the use of prestressed concrete.

Scope and Activities

- a) To obtain information on developments in prestressed concrete and compile reports for the use of members of the Institute.
- b) Arising out of discussions on these reports to decide where information is lacking and arrange for investigations.
- c) To encourage the presentation of technical papers.
- d) To collect papers and books on prestressed concrete and make them accessible to members of the Institute.
- e) To undertake negotiations with appropriate Government departments and local authorities on behalf of the prestressed concrete industry.
- f) To endeavour to ensure that Regulations and Codes of Practice do not hinder the appropriate development of prestressed concrete.
- g) To obtain information on developments in the application of prestressing to materials other than concrete, and compile reports for the use of members of the Institute.
- h) To affiliate with other organisations of similar interests.

Membership of the organisation was by way of Business – defined as manufacturers of prestressed concrete, constructors of buildings and/or civil engineering structures or manufacturers or suppliers of prestressing materials and equipment; Ordinary - defined as those actively interested in the development and use of prestressed concrete; Honorary – those invited by Council to accept such status. Most of the remainder of the Constitution dealt with the usual procedural matters, safeguards for the Institute, its officers and members and winding up.

The recommendations for the meeting’s approval also set out five activities which the new body was commended to consider;

- a) New Zealand report to FIP Congress in 1966.
- b) A third New Zealand Prestressed Concrete Conference.
- c) Presentation of a paper on Prestressed Concrete at the International Earthquake Conference in 1965.
- d) Institute to review its position in respect to New Zealand Standards Institute representation.

e) Affiliation with FIP.

So the Steering Committee's report and recommendations put to the Second General Meeting were passed, with due note being taken of the objection by Mr Jeffrey (B&B Concrete, Auckland) to the high cost of secretarial services in the budget representing £3 per member, and a couple of amendments to the Constitution which were conveniently left for the future to decide. Despite Mr Jeffrey's comments on secretarial fees, the NZ Portland Cement Association's standing offer through its Chief Executive and a major proponent of the setting up of the new organisation, Monte Craven, was readily accepted. In real terms this is not surprising as it contained a generous measure of subsidy, an Association policy that was to continue for some 20 years.

Council

The final duty of the Second General Meeting was to elect a Council to run the affairs of the Institute. The Constitution called for a President, Vice-President and four Councillors two of whom were to represent Business members. Elected were H W Cormack – President, R G Norman – Vice-President and Councillors – M A Craven, I L Holmes (Christchurch Consultant), R McK Jeffrey and K Douglass.

The Council's first meeting only four weeks later put in train all the recommendations of the Steering Committee, and additionally applied for Incorporation, approved a membership application form and campaign for membership, approved the Institute seal and a letterhead design – the Institute was in business.

The nature of the Council's responsibilities – to initiate and implement activities in line with the aims and objects of the organisation – drew key people to its ranks from the start. Top designers, manufacturers and constructors recognised the potential development of the industry by the application of prestressing techniques, and saw the Institute as an authoritative voice in the method's growing acceptance and understanding. Contribution to Council's work meant that individuals were in the position to devise and plan proposals for industry on the one hand, and in their own offices and plants were able to implement them on the other. There was always sufficient industry competition to keep to the straight and narrow, yet the commercial spur was still there.

The list of Presidents over the 25 years is impressive.

1964 – 1965	H W Cormack	Director, Certified Concrete, Auckland
1966	R G Norman	MOW Design, later to be Commissioner of Works
1967	M A Craven	General Manager, NZ Portland Cement Association
1968 – 1969	I L Holmes	Principal, Holmes, Wood & Poole
1970 – 1971	W M Sutherland	Chief Engineer, Prestressed Concrete NZ Ltd
1972	N W Allardice	Principal, Kingston, Reynolds, Thom & Allardice Consulting Engineers
1973 – 1974	R W Irwin	Director, BBR New Zealand Ltd, Masterton
1975 – 1976	R Park	Professor of Civil Engineering, University of Canterbury
1977 – 1978	R L Preston	Chief Civil Engineer, MOW
1979	J B Whittaker	Chief Engineer, Prestressed Concrete NZ Ltd
1980	P J North	Principal, Murray-North Partners, Consulting Engineers
1981	I E Mills	Chief Engineer, Downer & Co Ltd
1982	G E B Wilson	Consulting Engineer
1983 – 1984	L G Cormack	Director, Beca, Carter, Hollings & Ferner Ltd, Consulting Engineers
1985 – 1986	M T Lauer	Sales Director, Sika NZ Ltd
1987 – 1988	D P Barnard	Director, NZ Concrete Research Association (later Cement & Concrete Association of NZ)

Administratively, Council has changed very little. No President has remained in office for more than two consecutive years, many for only one. This is both reasonable and understandable as the considerable contribution of time and effort usually involves at least two years on Council prior to the presidency, and one as Immediate Past President, making a minimum total of four years. Continuity has however always been preserved – though often coincidentally, as never have there been more than three personnel changes at one time.

The composition of Council in terms of membership representation, has however been the source of some seemingly complicated alterations to the Constitution in an effort to maintain balanced representation. Also after some years' experience, Council sought and obtained the annual meeting's approval to increase its number by allowing additional co-option of representatives of influential groups in, or associated to, the industry. Attempts in early years to involve and be involved with a sister organisation in Australia, and kindred industry groups and professional associations in New Zealand, resulted either in a straight refusal (in quite amicable terms!) or a grudging willingness that in short time came to the same end. Part of the reason could be that we are neither fish nor fowl – not a trade association, nor yet a wholly 'professional' one, and as for the vibes across the Tasman, they have been lost somewhere between single leaf clay brick wall construction in Sydney and the 10ft thick reinforced concrete raft supporting the Beehive.

Honorary Members

The Constitution describes such members as 'those persons who may from time to time accept the invitation of the Council to become Honorary Members of the Institute (Society). Such members shall be entitled to vote'.

In the 25 years existence of the Institute (Society) only six people have been invited to accept Honorary Membership.

- 1965 Monsieur Yves Guyon
International recognition of his contribution to the worldwide development, understanding and use of prestressed concrete.
- 1967 H W (Sandy) Cormack
In recognition of his outstanding contribution to the establishment of the Institute and his quality of leadership as President during its first two years.
- 1971 Alan J Harris (later knighted for his services to engineering)
For many years been active in the implementation of the FIP aims and objects, and for his work in civil engineering had been awarded the CBE. In recognition also for his strong support in favour of the establishment of the Institute when last in New Zealand in 1963.
- 1976 M A (Monte) Craven
Outstanding contribution to the development and technical understanding in New Zealand of prestressed concrete, for the significant part played in the setting up of the Institute in 1964 and for his encouragement and long serving participation in its affairs ever since.
- 1982 Michael D Brice
For his diligent work as Secretary of the Society, and his guidance, interest and concern for Council since the NZPCI and subsequently and Society, was set up in 1964.
- 1987 Professor R (Bob) Park
Represented the Society with distinction in almost every official capacity possible over a period of nearly 20 years an outstanding contribution to the growth of the Society, to its technical development and to the wider recognition of New Zealand's concrete design and construction expertise.

FIP – Federation Internationale de la Precontrainte

The International Federation for Prestressing to which most national 'concrete' and 'prestressed concrete' organisations belong, accepted the New Zealand Institute's application for membership in 1964. This country was in fact already represented on the world body by the NZPCA, but that organisation fully supported two member affiliation for it afforded more capacity for actual participation in world congresses, symposia and the Federation's technical commissions, not to mention the opening up of more channels of technical communication and therefore access to new developments in the wider concrete field. For the Institute, all these benefits of membership were quickly recognised plus the bonus of paying only half the annual subscription fee.

Direct benefit to individual Institute members came, and still comes quarterly, with personal copies of the publication in the UK of FIP News, a 40 odd page A4 magazine comprising technical articles of material, design and equipment development, the ever illustrative job reports of interesting structures world wide, and progress reports of the Federation's technical commissions. These 10 to a dozen commissions study industry problems common to many concrete users, principally by way of correspondence amongst its elite international membership. The FIP's technical secretaries draw together the geographically distant expertise from all countries represented on the Commissions which work towards a comprehensive report on their specific briefs to the four yearly world Congress of FIP.

In the almost quarter century of group membership of FIP, the New Zealand organisation has contributed to and gained greatly from participation in congresses, presenting national reports as well as individual papers, in membership of many of the technical commissions, and in personal contacts with counterparts in the concrete and associated industries from all over the world.

In 1976 the FIP held an inter-congress symposium in Sydney, Australia when the opportunity was taken to organise the Institute's annual conference in Auckland immediately preceding the trans-Tasman event. The then President of FIP – Roger Lacroix, the Secretary-General, Arthur Hill and technical and administrative secretaries of FIP as well as other notable international 'concrete' personalities, were redirected via Auckland so as to attend the New Zealand conference before travelling onto Sydney. The observations and contributions of the group to both the technical and administrative aspects of the New Zealand Institute's activities were of immense interest, as was the value of personal contact with so many of the FIP hierarchy.

Conferences

The recommendation of the Steering Committee to the early Councils of the Institute to investigate the running of a third New Zealand Prestressed Concrete Conference materialised in August 1965 some 18 months after incorporation. It did not however take the form imagined, a national event with overseas invited speakers as had been the case with the 1963 Precast Concrete in Buildings Symposium. Rather it was a low key, in-house affair, attended however by some 40% of the membership or their representatives.

The skeleton-like programme, informal to say the least, hit the proverbial nail on the head. Detailed design, manufacturing and construction techniques were suggested, aired, reported on and discussed. Reports of practical research work being undertaken by the two schools of engineering received similar treatment. Frankness of discussion, encouraging the free interchange of ideas, views and experiences amongst designers, amongst contractors, amongst manufacturers and then between all the groups, developed a special quality that became the hallmark of Institute conferences for the future. For that is what happened, at the end of each conference (10 of the first 12 were held at Wairakei) delegates were asked whether they wanted a conference the following year. After the first 10 or so the hierarchy didn't bother to ask, just went ahead and planned for the next year. And so in fact a conference has been held every year since its inception, the hugely successful weekend format, based on five to seven technical sessions, each dealing with a subject of topical concern and interest, being repeated on the basis of there being little point in altering 'a good thing'.

Exceptions that prove the rule were the 1976 conference referred to earlier when FIP hierarchy attended prior to Federation symposia in Sydney, and the 1988 Pacific Concrete Conference run jointly with the Cement & Concrete Association, New Zealand. With over 200 full or part time registrants, one third from overseas, this was the most ambitious event planned by the Society; three and a half days of conferring, over 70 papers discussed in concurrent sessions, four invited overseas keynote speakers and a concurrently run trade display featuring over 20 exhibitors.

Without doubt part of the success of conferences, particularly in the early years which of course set the pattern, was the almost unbridled enthusiasm conference participants had in the topic of prestressed concrete. This is clearly illustrated by the fact that even with the rapid rise of Institute membership which reached a plateau after 10 years, the average attendance at conference exceeded one third of the membership at that time. It is hardly surprising to note that during this same period the principles and benefits of prestressing had become so well understood and appreciated as to be accepted as the norm for appropriate forms of design and construction. As a natural development of such acceptance, members' interests broadened to the wider uses of reinforced structural and architectural concrete and the myriad of topics associated with its quality design, manufacture and construction.

An inescapable fact that has become obvious in more recent years, is that the annual conference to the average member is often the principal, and sometimes only (depending on location), technical activity in the organisation's year. Successive Councils have striven to set up regional activities but save for occasional seminars on specific design topics and a rare eminent visitor who, quite coincidentally, has time available to give addresses in the provinces, efforts have been in vain. In fairness to Council, there has been little evidence of interest, not to mention support, from members whose requirements have seemingly been catered for by regular IPENZ or Structural Group meetings.

Technical Committees

As might be expected with the introduction of a virtually new form of design and construction which the development of the principles of prestressing represented, there were soon identified specific areas of concern that were best investigated by interests most closely involved. By the second conference in 1966, three committees reported on the progress of initial studies, seismic design; technical supervision and training of personnel; and grading of prestressing plants. The same conference recommended to the incoming Council to consider establishing new committees on PSC fuel storage tanks, fire ratings and New Zealand design specifications for PSC structures. Three years later there were no fewer than 10 committees, the topics of alternative flooring systems, tendons, research and publicity having been added in intervening years.

The list of committees above is not exhaustive, but is highlighted to illustrate both the methods adopted to carry out the early work and aims of the organisation, and the level of commitment and enthusiasm generated in the evolution of prestressing in New Zealand. Records show that the use of Technical Committees has continued throughout, but diminished considerably in line with the growing understanding and acceptance of prestressing. The inevitable development in the broadening of technical interests beyond the immediate area of prestressing, equally inevitably saw the snuffing out of the magic spark of excitement and enthusiasm that something really new generates. In the same way that prestressing organisations were formed overseas well before surfacing in New Zealand, so were they coming to terms with exactly the same developments and in the main, disappearing or merging with wider interest concrete development/promotion organisations.

The New Zealand Concrete Society

Several references have been made to developments in the work of the NZPCI to sufficiently explain why with 10 – 12 years of its institution there was growing support for a change of name to better reflect the widened interests and activities of the membership. As has been implied, this was already occurring to some overseas prestressing groups, but it took a number of years to materialise here. One reason may well have been the general lack of urgency, but another was quite definitely the constitutional difficulty of only having one practical opportunity a year to face the membership with proposals. Alteration of the Constitution to cater for the wider scope of interests and legally to satisfy all those required to be satisfied was child's play by comparison to obtaining the same satisfaction with the new name. This was duly achieved however in 1980, when other industry groups were assured that the Society was not hatching a takeover bid nor even contemplating a merger.

In time the change had the desired effect of attracting not only an increasing membership, but one that represented virtually all interests in the industry. The old Prestressed Concrete Institute had for many years encompassed most of those interests, now the new name 'Concrete Society' proved that it did, as simple as that. By definition, the Society, which carries on the Institute's tradition, is a semi-learned body, interested in and more concerned with the technical/academic aspects of concrete the material and its behaviour, and the means of translating them into practical benefits to the user. As such it does not impinge, except rarely, upon the preserves of other industry groups which are constitutionally differently oriented.

Secretariat

References have already been made to the contributions Monte Craven and the NZ Portland Cement Association made, firstly in initiating the setting up of the prestressing institute, and then long term assistance with the development of its technical direction.

The additional offer of practical help in providing the new body with secretarial services was a principal facilitator to in effect achieving its constitutional aims and objects. The offer, which comprised not just the service, but the service at a considerably subsidised rate, was a deliberate policy decision of the NZPCA extended where required to all such groups within the concrete industry. In the case of the Prestressing Institute/Concrete Society the Association provided secretarial services from inception in 1963/1964 to the end of 1985. All but the last few years in this period the post of Secretary was held by Michael Brice as an employee nominee of the NZPCA. In the intervening years it was held successively by Mrs Judy Billows and Bob Christie of the NZPCA. In 1986 Michael Brice, this time in a private capacity, was appointed Secretary by the Council of the Society and is the present incumbent.

Concrete Awards

A means of recognising innovation and quality in workmanship, at the same time publicising the versatility of the material and encouraging its greater understanding and use, were all sound reasons quoted in the setting up of awards for excellence in concrete.

In 1976 an anonymous donor offered the Institute Council \$500 to invest and to use the interest to fund a biennial prestressed concrete award. Shortly after the organisation's change of name to the New Zealand Concrete Society, an award for excellence in respect of all other types and uses of concrete was established. The two awards were run every second year separately for a number of years, but in 1986 they were offered together for the first time, every entry, where appropriate, being automatically considered for each award.

The response to invitations to the industry to participate in the various awards over the years has brought forward a host of entries of breathtaking variety and in many cases, ingenuity. In all cases the judging panel comprising representatives of architects, engineers and constructors has commented on the difficulty of their task, not only of choosing between eg. a multi million dollar 400m long bridge and a portable precast water tank, but the relative merits of the two systems, their applicability and the solution of the problem posed.

In early years of the awards, only the winner and the runner(s) up had the benefit of the wide magazine publicity. Since 1986 all entries eligible for consideration have been published in a special issue of the journal 'New Zealand Concrete Construction', and distributed free to some 3,000 design and construction offices, local bodies and Government departments throughout the country, as well as to many overseas countries. The journal issue is in fact a magnificent ambassador for the design, manufacture and construction expertise that has been developed and is available within the industry, a better advertisement would be hard to come by.

The journal 'New Zealand Concrete Construction' as from the beginning of 1989 became an added benefit of membership of the Society, a subscription being included as part of the annual membership dues.

Conclusion

The purpose of this paper has been to present a view of the administration of the New Zealand Concrete Society and its predecessor the New Zealand Prestressed Concrete Institute in its first 25 years of operation.

The Secretariat or 'admin department' of such an organisation performs a wide variety of duties, none more important than the implementation of specific decisions by its governing body to broadly achieve the stated objectives. It is the governing body however, with the support of its wider membership, that carries the can, that directs the music, that shapes the destiny.

Measured in terms of the technical objectives laid down in year one, there can be no doubt of the outstanding successes achieved due to the leadership, vision, determination and co-operation of a succession of people dedicated to the organisation's cause.