

Association of N.S.W., and the following letter was forwarded to us by that Officer, a copy of which is as follows:—

Town Clerk's Office,  
Sydney.

26th June, 1917.

The Secretary,  
Engineering Association of N.S.W.,  
5 Elizabeth Street, SYDNEY.

Dear Sir,—

I have the honour to inform you that an Advisory Board appointed by the Lord Mayor has been sitting for some little time past drafting a set of Reinforced Concrete Regulations under the Amending Building Act passed by Parliament in the early part of the year.

These draft Regulations have now been printed, and with the object of obtaining as much criticism as possible from experts and with a view to assisting in obtaining the latest data, it has been thought advisable to furnish you at this stage with three (3) copies, and I should be glad if you would kindly peruse the same and furnish me with the observations of your Association thereon at your earliest convenience, as it is intended to make early application to the Executive Council for approval of such regulations.

Yours faithfully,

(Signed) T. H. NESBITT,  
Town Clerk.

and to which we replied as under:—

27th June, 1917.

T. H. Nesbitt, Esq.,  
Town Hall,  
SYDNEY.

Dear Sir,—

I wish to thank you for your courtesy in forwarding three (3) copies of Regulations relative to Reinforced Concrete Building, and will place the matter before my Council for their consideration at the next meeting.

Yours faithfully,

Hon. Secretary.

As it was considered advisable to appoint members of the Association to this Committee, whose duties were closely connected with this important

branch of Engineering, the following gentlemen were asked to represent us on this occasion, viz.:— Messrs. A. J. Hart (since deceased), W. Poole, Jas. Vicars, A. McCredie. This Committee may be said to be strictly representative of Concrete and Concrete Constructional Engineering.

Mr. Arthur J. Hart was elected Convener of the Committee, and under his able chairmanship the Amendments presented and finally accepted by the Sydney Municipal Council were drafted and compiled.

Altogether seven meetings were held, but this did not constitute the full amount of their labours, for at intervening times impromptu debates upon the points at issue were carried out.

The copy of the draft regulations returned to the Council of the Engineering Association prior to forwarding to the Sydney Municipal Council evidenced the amount of work and thought put into these regulations by the Sub-Committee.

A recommendation to Council from the Sub-Committee was that the Regulations should be divided into five (5) main parts, viz.:—

- (a) General.
- (b) Reinforced Concrete Construction.
- (c) Foundations Reinforced Concrete and Steel Frame Construction.
- (d) Steel Frame Construction.
- (e) Special Structures.

And that the numbering of clauses and insertion of marginal references should be carried throughout the Regulations.

It was also recommended that in order to make the provisions of the Act, easily accessible a full index should be compiled and added to the said Regulations.

A further recommendation was made that under the head of girderless floor construction that all of the diagrams but one, inserted in the present printed draft, be deleted.

The Committee believe that the diagrams printed on page eight of the draft refer wholly and solely to one patented type of girderless floor, and think it unwise to pick out one special form of a system of construction in this way.

The calculations given in the appendix to the Regulations are acceptable to the Committee, but they consider that the misprints at present existing in the pointing of the symbols will be corrected.

The Committee appreciate the valuable work and labour of those responsible for the draft as it existed in the printed form under review.

In recognition of the work and time that our Sub-Committee spent upon their modifications of the Regulations, the Council caused the following letter to be forwarded to the Chairman of the Committee. Copies also to Messrs. Vicars, Poole, and McCredie.

15th August, 1917.

A. J. Hart, Esq.,  
Pendennis Chambers,  
George Street, SYDNEY.

Dear Sir,—

Please accept the hearty thanks of members of this Council for the able and enthusiastic manner in which you have assisted on the Sub-Committee appointed to report upon the Reinforced Concrete Regulations submitted to this Association by the City Council. We have no doubt that the modifications suggested by the Sub-Committee will be approved by the Advisory Board.

Yours faithfully,

Hon. Secretary.

The amendments, alterations, etc., were shown in one copy of the Regulations and returned accompanied by a letter from the President, on the 14th

August, 1917, in which he outlined the recommendations of the Sub-Committee.

As no reply had been received from the Sydney Municipal Council, relative to the above amendments suggested from the Association, Mr. Fildes was deputed to wait upon the Lord Mayor, in order to point out what had been done in regard to the acceptance, or otherwise, of the alterations, and after some delay a meeting was held, at which both Messrs. A. J. Hart and Jas. Vicars attended, at the request of the Chairman of the Advisory Board.

An extract from the Convener's letter, Mr. A. J. Hart, to the President, fully explains the success with which the efforts of our Association through its Sub-Committee achieved in this important public matter. This extract is as follows:—

Pendennis Chambers,  
375 George Street, SYDNEY.  
15th October, 1917.

The Secretary,  
Engineering Association of N.S.W.,  
SYDNEY.

### **New Building Act.**

Revised copies of the proof were forwarded to the Association prior to this date and in my absence from town were very carefully compared by Mr. Vicars with the original draft and with the Engineering Association's recommendations which had been put forward. On my return to town, Mr. Vicars and I went into this matter again together and we found that the substance of approximately two-thirds of our recommendations had been adopted, but as we still considered that some of our other recommendations which had not been followed were of considerable importance, Mr. Vicars arranged an interview between ourselves and Professor Warren for the morning of the 11th instant.

This interview was subsequently held at the University, where we discussed with Professor Warren the points at variance, and as a result of this interview quite a number of the recommendations which had been previously overruled were embodied in the revised draft.

The Professor's action was ratified at the meeting of the Advisory Board held during the afternoon of the same day, and as a result of our work we computed that about 85 per cent. of the Committee's original recommendations have now been finally adopted.

In view of the fact that many of the recommendations put forward by different bodies and individuals were of an extremely divergent nature, we regarded this result as being extremely satisfactory, which view we trust will be shared by your Council.

The present position of this business is that the draft as finally revised has now been returned to the printers, and we understand that after perusal by the City Solicitor the Regulations will be made generally available. It was expected by the Chairman of the Advisory Board that the Regulations would be in force by Christmas next.

Yours faithfully,

(Signed) ARTHUR J. HART..

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## WHEAT ELEVATORS.

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From the tenor of the reports published in the daily press at the time some misconception must have arisen in the minds of the departmental officers and others, regarding the position of the members of our Association who were present at the deputation to the Minister for Agriculture to voice a community protest against the letting of tenders under the conditions as advertised, and our President, Mr. Harricks, had the following letters forwarded to the press to clear this matter up:—

(Copy)—sent to

The Editors,

“Sydney Morning Herald” and “Daily Telegraph.”

### Wheat Elevators.

Sir,—

From the report concerning the deputation that waited upon the Premier on Wednesday afternoon last, and subsequent references thereto in the press, it is clearly evident that a wrong conception has been formed

with regard to the position occupied by the Engineering Association of New South Wales in connection therewith.

We joined the deputation as a prominent scientific body of engineers in this State and, although in protesting to the Government, it was impossible to separate the professional and commercial aspects of the case, I would ask your assistance in making clear to the public that our action was taken entirely with the object of ensuring that Australian engineers should have every possible opportunity of participating in this work, and so build up their experience that, in the future, the Commonwealth should not have to go outside to obtain professional assistance in this class of work.

Although the Premier has cleared away the doubt that existed as to the sincerity of the Government in its desire to afford the fullest opportunities for Australian firms tendering, we still strongly contend that the time allowed is quite insufficient to enable them to prepare and submit their tenders; and Mr. Holman, in referring to the fact that Messrs. Metcalfe & Coy. (long-standing specialists in the construction of wheat elevators, be it remembered) required only a week in which to furnish an approximate estimate, I would ask the following question, viz. :—

If this firm were about to prepare a tender for building, say, Abattoirs, of an assumed value of 2½ million pounds, and being without experience (which is the position of Australian firms as regards wheat elevators), how long would they require in which to do so?

In addition to the want of experience in the construction of Wheat Elevators, tenderers are further handicapped by the absence of schedules of quantities, whereas Messrs. Metcalfe & Coy., no doubt, had ample data in this connection and had worked on the plans quite a considerable time.

Then, as we are **now** advised, if plans were made available to the public two weeks after the advertisement appeared calling for tenders, why was this important fact not publicly announced, or advice to this effect vouchsafed to prospective tenderers by the inclusion of a notice in the conditions of contract, or by the exhibition of a notice in a prominent place in the room? Certainly, no member of the deputation seemed to be aware that plans and specifications were available.

Furthermore, if, as Mr. Holman stated, it is estimated by the Department that at least four years will be required for the construction of the elevators, surely another two or three months allowed to tenderers could not be called a serious delay.

We desire to disassociate ourselves entirely from any question of deliberate unfairness on the part of the Government but, approaching this matter as trained professional men, we do most sincerely believe that the conditions of tendering are unfair to Australian firms.

The fact that several contractors, well known to the Government, in reply to a question, have unanimously protested against an extension of time, does not justify the conclusion that every potential tenderer has had a fair and reasonable time in which to consider the matter, and it is, perhaps, more correct to assume that there is a number of other well known firms who could, with ample time, provide the competition for the work that, no doubt, the Government desires.

I remain, Sir,

Yours very truly,

President Engineering Association of N.S.W.

The result of the deputation and the controversy that followed, no doubt, helped considerably towards the extension of time allowed for tenders to be submitted, although there is no doubt but that undue haste was exercised in the first place.

Much controversy exercised the public mind during the year 1917, re the method adopted by the Government in letting the contracts for this important National undertaking, and the Engineering Association thought that in this matter they had a right to step in and make protest on behalf of the Engineering Profession generally, as to the way the matter was being handled by the Department concerned.

The members of the Committee appointed by the Association were:—Messrs. D. F. J. Harricks, President, James Vicars and Wm. Poole. They were instructed to draw up a report for presentation to the Government.

It was really at the instigation of Mr. Wm. Poole that the interest of the Association was quickened, and the letters of protest finally lodged with the Government in power at the time. Mr. Poole wrote a letter to the President of the Association urging the necessity of some action to be taken by the Engineering Profession in N.S.W. to protest against the method adopted by the Government in calling for tenders for this most important and costly scheme for the bulk handling of the country's wheat. He considered that action should be taken to protest to the Government for the following reasons:—

(1) That a contract for the whole scheme is too large for Australian contractors to reasonably handle, and in place thereof separate contracts be made for the terminal elevators at Sydney and Newcastle, and that the number and size of country elevators be more definitely defined, and that they be divided up into groups and let as separate contracts.

(2) That a contract for the whole scheme is too large to obtain healthy competition, and hence a reasonable cost of construction.

(3) The letting of a contract for the whole scheme to a foreign firm would be injurious to the interests of Australian contractors and their organisations, local Engineering, manufacturing and supply firms, and would also send much more money out of the country at a time it is very undesirable to do so than if the work is carried out by Australian firms.

(4) The time allowed to lodge a tender is totally inadequate and should be largely extended, to enable Australian firms to obtain the necessary quotations of price and time of supply of materials and plant, and to make financial arrangements.

(5) That contracts be scheduled, and let on terms similar to those for Public Works contracts.

(6) That John S. Metcalf should not supervise the contract if let to themselves or to another firm in which they may have any financial interest.

(7) That as the scheme is essentially and overwhelmingly an engineering one, the Government representative should therefore be an engineer, and not the Government architect.

The President at the instigation of the Council of the Association despatched the following letter to the Hon. W. C. Grahame, M.L.A., Minister for Agriculture:—

The Hon. W. C. Grahame, M.L.A.,  
Minister for Agriculture,  
SYDNEY.

Sir,—

I have the honour to advise you that, at a special meeting of the Council of this Association, called to consider the terms of the Wheat Elevator Contract, the following resolution was passed, viz. :—

“That this Association desires to strongly protest against the method adopted of calling for tenders for the erection of wheat elevators, and on the following grounds:—

- (1) That the time allowed for tendering is unquestionably inadequate.
- (2) That detailed schedules of quantities should have been provided, and that copies of such, together with plans and specifications, should have been available for purchase by tenderers.
- (3) That, even with an adequate extension of time, it is considered that it would probably have cost as much as the amount of the first deposit to prepare a tender under the specified conditions.
- (4) That the work should have been divided up into separate contracts, either for each individual unit or for groups of units.
- (5) That without wishing to, in the slightest degree, reflect upon any officer, it is considered that the construction of wheat elevators is so essentially of an engineering character that supervision should be entrusted only to a member of the profession.”

In view of the vital importance of this matter to the members of the engineering profession in this State, I have no hesitation in bringing this resolution under your notice, and asking that the same should receive your earnest and favourable consideration. I need scarcely add that, in addressing you on the subject, it is our desire to assure you, if such be necessary, that the professional skill of Australian Engineers is quite equal to successfully carrying out the construction of the work in question. Again, we consider it would be a cause of serious regret if the contract were let in any way that would adversely affect the fullest opportunity being afforded to our engineers of increasing their experience in this kind of work, and which experience would enable them later to carry out, in its entirety, the same class of work for extensions that are sure to be required in the near future.

(Signed)

President, Engineering Association,  
N.S.W.

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## **STANDARDISATION OF STRUCTURAL STEEL.**

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Owing to the dearth of Steel and Iron Section during 1918 the Bureau of Commerce and Industry, Melbourne, circularised the various scientific institutions interested in the use of this material with a view of formulating a scheme whereby sections suited to Australian requirements could quickly and cheaply be made by local enterprise.

Representatives from the Broken Hill Proprietary Co., Ltd., Hoskins, Lithgow, the various Public Works Departments, and Railways of the Commonwealth, together with others from the various Engineering Institutions, were called together for this purpose.

The Engineering Association's representative was Mr. Jas. Vicars, and this appointment met with the approval of the Director, who commented very favourably upon our choice. We were also informed that the proceedings of these conferences would be under the aegis of the Institute of Science and Industry.

This Association suggested to the Director that the Conference be held in one of the steel manufacturing centres, but it was pointed out that most of the representatives were mostly centralised in Melbourne, and if we could see fit to send our member to that city much good would accrue from his presence.

As Mr. Vicars was ready to make the journey we acquiesced in this.

After much delay owing to quarantine restrictions due to the influenza epidemic then raging, the conference finally met in Melbourne on the 1st of July, 1919.

A perusal of the list of those present will indicate the importance attached to this conference, those present being:—

Messrs. Sterling Taylor, Director of the Bureau of Commerce and Industry; Professor Lyle, Melbourne University; Mr. James Vicars, Engineering Association of N.S.W.; J. B. Smart, Public Works Department, N.S.W.; C. Hoskins, of Messrs. G. & C. Hoskins, Lithgow; W. J. Doak, Queensland Railways and Engineering Institute; D. Gray, of Gray Brothers., Williamstown, Victoria; H. W. Curchin, Chief Executive Officer of the Commonwealth Ship Construction; E. E. Lucy, C.M.E., N.S.W. Railways; W. E. Doode, Dorman Long & Co., Melbourne; Messrs. Gondy and Doyle, Victorian Railways; A. F. Pritchard, Institute of Architects, N.S.W.; E. Lewis and R. M. Rowe, Broken Hill Proprietary, Ltd.; A. F. P. Somerville, Institute of Architects, N.S.W.; A. H. Bates and H. Tompkins, Institute of Architects, Melbourne; T. Hill, Commonwealth Works and Railways, Melbourne; S. W. B. McGregor, H.M. Trade Commissioner, Melbourne; W. P. Chancellor, Johns & Waygood, Melbourne; C. S. Brittingham, Public Works Department, Melbourne; A. G. Trimmins, Lion Rolling Mills, Melbourne.

Professor Lyle was appointed by the Commonwealth Government to the chair. He said in opening that Standardisation had been the making of many industries in England, America and the Continent of Europe, and it should be unnecessary to stress this before such an assembly as this.

It was decided that the British Standard Specification be then discussed section by section, and during the discussion that followed it was shown that there were many sections included in the British Engineering Standards that were seldom called for in Australian conditions. Slight modifications were adopted in many instances, principally at the instigation of Messrs. Vicars, Smart, Lewis and C. Hoskins, these gentlemen evidencing keen interest throughout the whole of the proceedings.

At the conclusion of the conference, which lasted three (3) days, the Chairman said that the movement was the starting of a Standardisation of Steel Sections in Australia, which would be of inestimable benefit to all concerned in the Steel Industry here. He pointed out the fact that the conference deciding the Standard Specifications and Sections for use in Australia was extremely valuable, but he also expected and hoped that members present would loyally abide by the decisions arrived at, and would do their utmost to maintain the use of the standards which had been finalised.

Later letters from the Secretary of the British Engineering Standards Association indicates that the result of the conference had reached Great Britain, and that this Association note with pleasure the steps taken in Australia to further Standardisation.

Our representative, Mr. Vicars, was accorded a hearty vote of thanks by the Council for his efforts at the conference.

## RE CENSUS OF INDUSTRIAL PROBLEMS.

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Towards the end of 1916 the Advisory Council of Science and Industry submitted a letter to the Engineering Association asking the Council of this Association to circularise its members for the purpose of ascertaining briefly as to whether any of them had encountered technical difficulties or disabilities in any industry with which they were connected, or if they had come into contact with any particular firm or person in any given industry who had been unable to proceed owing to some technical trouble in their particular line of work.

An executive committee had been formed, and we were asked to assist by the appointment of a small sub-committee from this Association. Messrs. Harricks, Julius, Vicars, McEwin, Wm. Poole and A. W. Tournay-Hinde were chosen to represent this Association.

From the outset it was thought that the scope of this particular body embraced too large a sphere, and that the problems to be grappled with would need very careful handling and would take up much more time and investigation than was anticipated at the moment, and that perhaps the work would be controlled later by the Bureau of Science and Industry.

The members of our sub-committee attended several meetings on our behalf, when the matter seemed to have lapsed, due to stress of war work and other conditions.

**RE EXEMPTION FROM EXAMINATION IN THE  
PUBLIC SERVICE BY MEMBERS OF THE  
ENGINEERING ASSOCIATION, N.S.W., OF  
THE ELECTRICAL ASSOCIATION OF  
AUSTRALIA.**

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Much dissatisfaction had been expressed by members of both the above Associations at the distinction which had been made by the Public Service Board between members of the N.S.W. Institute of Architects and those of the Electrical and Engineering Associations with regard to their status in the Service.

Members of the Architects' Association were eligible for advancement in the higher grades of the service without examination, but others all had to submit to the grade examination set down by the Board.

Our members considered that this qualification entitled them to the same consideration as the Architects' Institute, and in order to rectify, if possible, this invidious distinction, the following letter was despatched to the Secretary of the Public Service Board:—

Engineering Association of N.S.W.,  
Society's Rooms,  
5 Elizabeth St.,  
Sydney,  
10th August, 1917.

Sir,—

I have the honour to inform you that the Councils of the Engineering Association of New South Wales and of the New South Wales section of the Electrical Association of Australia, have deputed four members to seek an interview with the Public Service Board, with the object of representing to the Board the desirability of membership of either Association being accepted in lieu of examination for promotion to the higher series of grades in the professional division.

The names of those chosen to form the deputation are as follows:—Representing the Engineering Association: Mr. D. F. J. Harricks (President) and Mr. G. A. Julius. The N.S.W. section of the Electrical Association of Australia: Mr. W. Corin (President) and Mr. A. E. Waddell.

I have now the honour to request that the Board receive the deputation, and assuming that this request is granted, I shall be obliged if you would ascertain and inform me when it will be convenient for the deputation to wait upon the Board.

I have the honour to be,

Sir,

Your obedient servant,

D. F. J. HARRICKS, Chairman.

The deputation fully explained the situation. Mr. Corin quoted a very terse and practical extract from the Presidential Address of Mr. Michael Longridge, President of the Institution of Mechanical Engineers, E., in support of the deputation's remarks, which were applicable to a large number of the members of these Associations where the practical man has been always in the van.

The Board evidently were not impressed by the arguments put forward, for their letter to us was as follows:—

Public Service Board,  
33-39 Hunter Street,  
Sydney,

7th September, 1917.

Sir,—

I am directed to inform you that, after giving full and careful consideration to the representations of the deputation to the Public Service Board on the 21st August, and after further inquiry, the Board are unable to accede to the request that membership of the Engineering Association of New South Wales and the New South Wales section of the Electrical Association of Australia should be accepted by the Board, in lieu of the examinations contemplated by the Public Service Act for admission to the higher series of grades of the Service.

Yours obediently,

(Signed)

Secretary.

At a further meeting of this joint sub-committee a letter was drafted and signed by Mr. Harricks as chairman, which read as follows:—

Sydney,

18th September, 1917.

Sir,—

I have the honour to acknowledge your letter of the 7th instant, intimating that the Board are unable to accede to the request that membership of the Engineering Association of New South Wales and the New South Wales section of the Electrical Association of Australia should be accepted by the Board, in lieu of the examinations contemplated by the Public Service Act, for admission to the higher series of grades of the Service.

This reply was considered at a meeting of my Committee to-day. We are at a loss to realise the reasons which the Board have for refusing our request, seeing that membership of the local Institute of Architects is accepted by the Board as equivalent to having passed the examination for the Higher Series of Grades, and we should be glad to know in what respect the Board consider that membership of the two Associations is different from membership of the New South Wales Institute of Architects.

Further, we request that the Board will intimate any modification of our membership rules which would admit of membership of either of the two Associations being accepted by the Board as equivalent to having passed the examination for admission to the Higher Series of Grades in the Professional Division.

We beg for the favour of an early reply for, if owing to the provisions of the Public Service Act or other reason unknown to us, the Board are unable to meet us in any way, we desire to place our case before the Royal Commission on the Public Service now sitting.

I have the honour to be, Sir,

Your obedient servant,

The Secretary,

D. F. J. HARRICKS, Chairman.

Public Service Board,

Perpetual Trustee Buildings,

Hunter Street, Sydney.

No satisfaction having been reached by this deputation, it was decided to leave the matter stand over pending the result of the amalgamation of the Institutions then under review.

In addition to the foregoing, the Association also interested itself in matters such as the following, and to which it either sent representatives or appointed special sub-committees to report upon the various points of interest that each contained, and to which further reference is also made in this volume, viz. :—

- Boiler Inspection.
- Technical Education.
- Local Government Bill.
- Fresh Water Supply for the City of Sydney.
- The Professional Status of the Engineer.
- Electric Lighting Bill, etc.
- The "Eddy" Memorial Fund.
- Australian Association for the Advancement of Science.
- Compulsory Arbitration
- Federal Capital Site.
- Town Planning and Garden City.
- Engineering Trades Advisory Committee.
- Good Roads Association.
- The Various Patriotic Funds.
- Sydney Municipal Council Building Regulations.
- Engineering Standards.
- Structural Steel.
- The Proposed Gas Act and Gas Standards.
- Standard Conditions of Electrical Contracts.
- Wheat Silo Contract.
- Apprenticeship Question.
- Re Bureau of Science and Industry.
- Advisory Council of Science and Industry.
- Manufacture of Munitions During the War
- Repatriation and Vocational Training.