

## STRATEGY TO ACHIEVE AUSTRALIAN DIVISION GOALS

The draft Australian Division Business Plan (2010-2014) which was distributed by Peter Ho sets out the Division's objectives in a non-prioritised manner and without a clear plan with dates for their achievement. There were six objectives in the original draft and two added at a later Division meeting which are:

1. Be the main point of contact for members in Australia.
2. Deal with HQ in London on financial and strategic matters.
3. Co-ordinate activities at the national level and provide a forum for interaction and cooperation between states.
4. Liaise with IStructE Divisions world-wide particularly with those in the region on matters of mutual interest.
5. Liaise with EA Structural College on common areas of interest, including Conferences (ASEC), CPD, registration, membership, CROSS and the like.
6. Promote membership and Part 3 exam participation.
7. Increase liaison with Universities.
8. Profile rising.

It is my personal opinion that Peter's objectives are too general and all embracing. I would suggest that Division should consider a re-ordering of the objectives according to our needs as set out below:

1. *"Increase the prestige and standing of the Institute of Structural Engineers in the Australian Engineering and Construction Industry."*
2. *"Promote and assist the establishment of State based membership Groups to provide regular meetings for members to exchange information of structural matters with the long term aim of increasing the membership."*
3. *"Increase the corporate membership numbers by promoting the benefits of membership to students, graduate engineers and potential members and providing courses designed to assist them to develop the necessary skills to tackle the CM examination."*
4. *"Liaise with HQ in London on financial and strategic matters."*
5. *"Liaise with IStructE Divisions in our geographical region on matters of mutual interest and to arrange speaking visits of interstate or overseas eminent engineers where appropriate."*
6. *"Liaise with EA Structural College only on matter of common interest."*
7. *"Liaise with other technical groups such as the Concrete Institute, Cement Concrete Aggregates Association, Standards Australia, Timber Development Association and Steel Institute and hold joint meetings as appropriate."*

If the first three objectives can be achieved within 2-3 years then Peter Ho's first objective will be achieved namely *"that the Australian Division will be the main point of contact for members."*

The following paper is proposed for discussion by the members of the Division Committee and suggests possible means by which some or all of the revised objectives may be achieved. It is my hope that it may form the basis from which we may grow.

# A STRATEGY FOR ACHIEVEMENT OF DIVISION GOALS

## 1. **Increase the prestige and standing of the Institute of Structural Engineers in the Australian Engineering and Construction Industry.**

This is a rather general aim and will only be achieved as IStructE gains a higher profile by increasing our membership and the involvement of our members in projects which can be brought to the public domain via the press or TV. It is difficult for engineers in general to achieve public recognition and as a result others often gain the kudos. A staged approach could be adopted for any publicity from engineering to construction to the community benefit resulting. There is a clear need for increased interaction with the community particularly in the immediate aftermath of any serious incident about which a structural engineer can provide accurate commentary.

However, as the remainder of the objectives are gradually achieved then the prestige and standing of the IStructE will be greatly enhanced.

## 2. **Promote and assist the establishment of State based membership Groups to provide regular meetings for members to exchange information of structural matters with the long term aim of increasing the membership.**

The most important task is the establishment of State based Groups which should form the foundation of the Australia Division. From the annual voting pattern for annual Institution's Council elections it is probable that approximately 35% of Members will have an interest in attending State Group run technical meetings or be prepared to assist in developing the Australian Division by increasing the membership.

A State Group should organise meetings and activities of interest to structural engineers. The group will need several enthusiastic members to form the core of the Committee to manage the group. An essential task of the group should be to form links with Universities and employers as a means of promoting the group. In this way it will be possible to attract both student and graduate members together with potential members to meetings.

There should be no charge for attendance at meetings and the provision of light refreshments should be included in the group's budget. Meetings need not be formal and interaction with presenters should be encouraged to provide a relaxed learning environment. In this way a group can develop a status in the engineering community where engineers can discuss problems and exchange experiences in a non-competitive environment.

The development of these groups will largely depend on the interest of state based members who appear to be mainly based close to the city in most States. The visit of Roger Plank could be used as a launching pad to initiate State technical groups.

When established, State Groups should then consider developing a course to prepare future members to take the CM examination.

## 3. **Increase the corporate membership numbers by promoting the benefits of membership to students, graduate engineers and potential members and providing courses designed to assist graduates and potential members to develop the necessary skills to tackle the CM examination.**

The promotion of the Institute to students will require establishing initial contact through one or more members of the University staff with a strong interest in structural engineering. The initiative outlined by Professor David Lilley from Darwin could form the basis of an opening discussion with members of staff. Later, this could be followed up with a presentation to students which should ignite their enthusiasm for structures. This presentation should be supported by providing the presenter with copies of *The International Passport*. If hard copies are not forthcoming from London then it could be

scanned and placed on the Division's website for easy access. From this presentation it should be possible to recruit several student members especially when there is no cost to the student.

The development of a course requires the assistance of a dedicated group of members to develop a course which will assist potential members with an approach to the CM examination. It is my experience that many senior engineers are unwilling to tackle this 7 hour examination for fear of failing and therefore losing face among their peers.

They should be encouraged to realise that the experience of attending the examination course is in itself a very useful learning experience and a valuable means of meeting and networking with likeminded structural engineers. It is our experience that candidates having tackled a full scale trial examination are much better equipped to complete the real examination.

The critical assistance that many graduate engineers and candidates require from a course is:

- Learning to allocate time to each section of the examination to achieve maximum marks within the seven hours available.
- Communicating clearly with the examiner their design intentions and reasons by words and sketches.
- To provide 2 clearly different and viable solutions and give concise reasons for choosing one.
- Analyse and design only the principal members for the chosen structure.
- Ability to produce in a professional manner clear and **properly dimensioned** drawings including plans, elevations, sections with gridlines and essential details, suitably referenced to gridlines.
- The ability to write a clear and concise letter to the client with pseudo letterhead, addresses, etc., setting out clearly the impact on construction time and cost of the proposed changes to the structure at this stage of the design process.
- Prepare a viable construction program.

Any course should cover all of these items and require candidates to prepare homework including drawings which will be assessed constructively and returned to the candidate. The course should, if at all possible, include a trial 7 hour examination using a previous year's examination paper.

The candidate's solutions and drawings should be properly reviewed and assessed with written commentary for the student. This should be followed by a feed back session with tutors and student giving constructive critique of each student's paper. It is the Victorian Group's experience that the candidates gained great confidence from sitting a proper trial examination with feedback and their comments were that this exercise is very beneficial.

#### **4. Liaise with HQ in London on financial and strategic matters.**

This should be a normal function of Division Committee and should not be an aim of the Division. There should be no need of further input other than to report our success or lack thereof.

There is a need to clearly acquaint HQ London of the tyranny of distance between the principal cities in Australia.

It should be an immediate goal for an annual face to face Division Council meeting at which Councillors can discuss progress towards the 5 year plan, receive reports of each State Group's activities and develop future strategies.

The Division should make allowance for the costs associated with travel and accommodation of Division members for an annual face to face Division meeting. These costs should be financed from London or included in the Division's budget.

**5. Liaise with IStructE Divisions in our geographical region on matters of mutual interest and to arrange speaking visits of interstate or overseas eminent engineers where appropriate.**

This should be mainly a matter of closer relations with New Zealand, Singapore, Hong Kong, Malaysia and Thailand Divisions but there may be more that I am not aware of. While some engineers may have the opportunity to attend overseas conferences, most don't.

It may be appropriate for Division to encourage those fortunate few who do so to provide on their return a summary to Division which could be posted on the website. Those who do attend should be encouraged to note and bring to Division's attention new developments any potential overseas speakers who may be invited to Australia in the future.

It would be appropriate for our Division to establish links with the South Africa and Canada Divisions to find out how they cope with the large geographical distances between centres in their countries.

**6. Liaise with EA Structural College only on matter of common interest.**

In my view the Structural Branch of EA will never form a close relationship with IStructE in all States as we will always be seen as a competitor for members rather than a compatriot. Thus while Members of the Structural Branch of EA have the ability to become associates of IStructE and use the title Structural Engineer I don't believe that they still see us as a rival for members. The possibility that EA Structural Branch members will gravitate to IStructE could only be seen as a very long term goal.

It should be our objective to be open to joint meetings with the Structural Branch and we should not be averse to supporting common goals such as CPD and development of Australian Standards and safe construction procedures.

**7. Liaise with other technical groups such as the Concrete Institute, Cement Concrete and Aggregates Association, Australian Steel Institute and Timber Development Association and hold joint meetings and Conferences as appropriate.**

All of these groups organise technical meetings and there is much to be gained from a structural point of view by developing a closer relationship with them. There is much to be gained from a close relationship with these groups and it would provide our members with a better understanding of material behaviour and construction limits. This would form a useful knowledge resource for our members.

It is critical for all structural engineers to have a good and concise understanding of materials they design under both normal and severe loading, for without such knowledge, how can a structural engineer be certain that his design will meet the client's requirements? Inadequate understanding of the limits of materials in a design and their behaviour under environmental and other loadings is a major source of structural deterioration and lack of durability.

There is also an advantage to be gained for members of by these organisations by closer relationship with The Institution of Structural Engineers, in that we can provide access to various aspects of structural engineering that may not readily available to their members.

## 8. POSSIBLE LONGER TERM OR FUTURE DEVELOPMENTS.

The future development of the Australian Division is clearly dependent on increasing the number of our members. An analysis of the current membership taken from the latest IStructE Australia Division address list as shown in Table 1 below is enlightening.

**TABLE 1 – DISTRIBUTION OF AUSTRALIA DIVISION MEMBERSHIP BY GRADE AND STATE**

State	Student	Graduate	Tech. Memb.	Associate	Assoc. Memb.	Member	Fellow	Total
Q'land	44	15		4	3	54	15	135
Victoria	42	17			3	45	10	117
WA	2	12	1	4	4	54	6	83
NSW	3	18		3	2	78	12	116
SA		1			1	11		13
NT		1					1	2
TAS		1				4		5
ACT	1					1		2
	<b>92</b>	<b>65</b>	<b>1</b>	<b>11</b>	<b>13</b>	<b>247</b>	<b>44</b>	<b>473</b>
Percentage	19.45%	13.74%	0.21%	2.33%	2.75%	52.22%	9.30%	

It can be seen that the combined student and graduate membership forms 33.19% of the total which is the second largest group after the members which should be fertile ground for recruitment.

I believe this is mainly the result of the current economic pressure on engineers in general to work longer hours and the lack of support by Management for CPD.

Thus of the 247 members approximately 50% may provide some support to any local group. Therefore, it is obvious that the Division should concentrate on increasing the student and graduate membership as it will be from this group that the future members will come.

The list of Universities previously circulated shows that while most Universities have a contact name, only one is a member of IStructE. However, it is not clear from that list whether all Universities have a strong structural engineering group.

It should become one of the Division's immediate objectives to develop a **visual** presentation which could be used in an initial approach to University staff and later to the students. The presentation should:

1. Outlines the aims and objectives of IStructE.
2. Emphasise the great career and role of the structural engineer.
3. Emphasise the value of IStructE student membership which will provide them with free copies of "The Structural Engineer" fortnightly.

The presentation should be supported by photographs of major and minor structures and a pamphlet which could be used by students to apply for student membership. As noted above the *Passport to International Engineering* should be scanned and loaded onto the Division's website as a matter of urgency.

Increasing membership by providing technical meetings requires locating engineers who are prepared to make presentations to members. Not all engineers wish to carry out such tasks and it often takes some inducements to reward them for their efforts. This could take the form of an annual dinner or bar-be-que for the speakers in a year. It would be appropriate to invite the speakers and partners to such a function with the Group's committee members and partners.

Some technical meetings could be arranged as a closed forum or a forum of invited guests could be a useful method of resolving a local technical problem or problem with local authorities. Only by banding together will the Institute grow and only when we have sufficient members will legislators take notice of our Institution.

The spectre of national Registration of engineers is fast approaching and it will be essential that IStructE remains an acceptable qualification for registration.

## **9. Longer Term Goals - Using technology for communication**

In the long term we should be more attuned to the current electronic age and develop electronic recording of all State Group Technical functions which can be uploaded onto the Division website. This will allow closer relations between State Groups to develop.

In the meantime, State Groups should distribute their draft speaker programme for the forthcoming year at the annual face to face Council meeting so that another State Groups could add a speaker from interstate. Such travel and accommodation expenses could be met from State Group budgets if so required.

The ability for overseas members to download meetings in London exists for ICE members. Council should approach London to develop a similar facility so that overseas Divisions can download major presentations from London or from other Divisions. As such a facility is available from ICE London from their members so IStructE should follow their lead.

The possibility of developing a distance learning program for the CM exam was considered but as the vast majority of members appear to be located within a reasonable distance of each State capital city this should not become an immediate objective.

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