



NEWS

Issue 19 – December 2014

Welcome to the 19th edition of SESOC NEWS. For general information regarding the New Zealand Structural Engineering Society (SESOC) and for committee contact details please visit www.sesoc.org.nz

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Seasonal message from the President

As 2014 draws to a close I wanted to highlight some milestones achieved this year. We have:

- welcomed the Otago Structural Group
- surpassed 1600 members
- held a roadshow on Higher Qualifications
- hosted ASEC 2014 and
- made a number submissions

As well as continuing with business as usual activities for the society. I want to thank all those who have given so generously of their time in 2014. It is truly a privilege to work with such a group of hardworking, dedicated, professionals who care about our society and profession. I particularly

enjoyed meeting many of you on the road show and I am confident that the society is in good health with such an engaged membership.

Looking forward 2015 is shaping up to be an equally busy year with its own unique challenges. If any of our members have suggestions and/or time to help then please feel free to contact me or any of the management committee.

I wish you and your families a safe and relaxing Christmas break and look forward to working with you in 2015.

*Paul Campbell
President.*

Apology

SESOC and the Editor apologises unreservedly for the sexist joke on page 86 of the September 2014 edition of the SESOC Journal, something which will not be repeated.

SESOC Journal

The SESOC journal has developed significantly over the past 5 years and we now intend to move toward full colour production. This should be evident in the April 2015 edition.

Building Consenting

MBIE are looking at a National Building Consent System (NBCS) details are contained in the following link. MBIE - [MBIE - National Building Consenting](#). One of the measures proposed in the system to improve regulatory performance and productivity in the building and construction sector is risk-based consenting. SESOC is also aware of a trial being run in Christchurch by CCC known as Risk Based or QA Consenting. We will represent and keep members informed on any developments in this area.

New H&S legislation

Concern has been expressed that the proposed legislation will place increased responsibility on designers for safety during the construction, use and demolition of structures. The issue is that the designer has no control over these activities.

The bill currently under consideration can be read here [The Health and Safety Reform Bill](#) .

Engineers will be particularly interested in clause 34, Duty of PCBU (person conducting a business or undertaking) who designs plant, substances, or structures [Clause 34](#).

This clause includes the wording *“The designer must, so far as is reasonably practicable, ensure that thestructure is designed to be without risks to the health and safety of persons..... who carry out any reasonably foreseeable activity (such as inspection, cleaning, maintenance, or repair) at a*

workplace in relation to....the manufacture, assembly, or use of the structure for a purpose for which it was designed, or the proper demolition or disposal of the structure...”

Occupational Regulation

Consultation on the MBIE proposals to change the way engineering is regulated has been progressing with submissions closing on 31 October 2014. [Link to MBIE web page](#)

IPENZ published an issues paper [IPENZ Position Paper](#) in September.

The Higher Qualifications and Improved Practice (HQIP) Working Group on behalf of the SESOC Management Committee made an 18 page submission which in its final paragraphs makes the point “The MBIE document “Proposals to change the occupational regulation of engineers in New Zealand” is a first good step, but alone, is not enough to ensure good building outcomes”. The submission identifies the following areas as in need of strengthening:

Improve quality of engineers	<ul style="list-style-type: none">• Education• Occupational regulation
Improve quality of design and documentation	<ul style="list-style-type: none">• Education• BCA regulation and guidance
Improve quality of design review	<ul style="list-style-type: none">• Education• Peer review, regulation and guidance
Improve quality of construction	<ul style="list-style-type: none">• Construction observation, regulation and guidance• Maintenance or structures

The SESOC HQIP Working Group identified 5 areas where improvement can and should be made. Those being:

- Training and education
- Assessment of competence of structural engineers
- Professional ethics
- Regulation and review
- Administration

A link to the full content of the SESOC submission is accessible in the Members are of the SESOC website: [SESOC / Members / reports](#) .

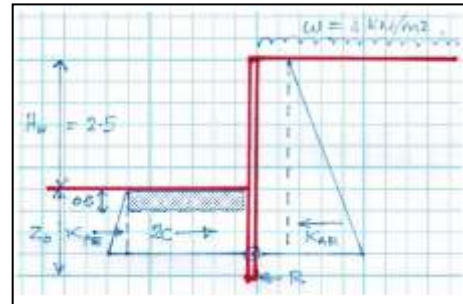
Standards

At the November Management Committee meeting, Graham Dilks (IPENZ rep) reported that IPENZ will be making a submission opposing the proposed Standards and Accreditation Bill currently at the public consultation stage. [Standards and Accreditation Bill](#) . This Bill, if enacted, will transfer the work of the current *Standards New Zealand* into MBIE. The reason for opposing is that it is felt that standards can best be developed in an environment completely free of any influence of other responsibilities carried by MBIE.

Retaining Wall Design

Although it is generally considered that reasonably well designed/constructed retaining walls performed well during the Canterbury earthquakes, MBIE, in conjunction with NZGS, has undertaken to provide improved design and construction guidance for retaining wall structures.

The first of this series "Guidance on the Seismic Design of Retaining Structures for Residential Sites in Greater Christchurch is available on the MBIE website [here](#) , along with a number of just released worked examples.



A further retaining wall design initiative is underway, in which SESOC has been invited to participate. Barry Brown has kindly agreed to represent SESOC, and the structural fraternity.

GenCol : RC Column Design Software

SESOC is pleased to announce the addition of GenCol to our suite of software - for the benefit of our members. GenCol is a reinforced concrete, sectional based, column design program, to NZS3101 (1995). The program provides both design and check capabilities for axial load column design, for circular and rectangular sections, including both uni-axial and bi-axial design.

GenCol was originally developed at the University of Auckland by Khalid Al-Sayegh with support from Richard Fenwick. From approximately 1999 the program was hosted on the Pacific Steel website. A recent decision by Pacific Steel to devolve themselves of this software meant it was offered to SESOC, who have now converted the program for use by the members.

Software Access

Members will be aware that SESOC membership base is, in effect, individual member oriented. This is evident in both the membership application form & categories, as well as in the Rules of the Society. Members will also be aware that software access on the website is restricted to the members only area, and software activation is dependent on valid membership credentials.

In summary, software access and use is for SESOC members only. SESOC does not provide for either group or corporate membership, nor allow group access to the software. This policy was agreed at the outset of involvement with provision of software to our members, and is elaborated here in light of some recent queries.

Practice Area Assessors Required

SESOC encourages all experienced CPEng practitioners to make themselves available as a practice area assessor commencing 2015. Please contact Jeff Wastney at IPENZ in the first instance Registrar@ipenz.org.nz

Request for assistance with survey

Johnson Adafin is a PhD Student in Construction Management at the University of Auckland, and requests the contributions of SESOC members with his PhD research on "A Survey of Risk Factors Involved in the Variation between Elemental Cost Plan and Final Tender Sum in building procurement". This survey is based on your experience as Professional Structural Engineers on Elemental cost plan and Final Tender sum in building project development in NZ generally. The research aims to develop a predictive model that will assist the construction industry practitioners in NZ to have a better and reliable prediction of final tender sum from the cost plan. The research purpose has indicated that such a model will be beneficial to the NZ construction industry practitioners including SESOC members. Participants will have the right to access a summary of the key findings when the research is concluded. This project has been given an ethics approval by the University Ethics Committee.

This survey has been modified at our request to be completed within 10 minutes.

To participate, please click on the link below to begin the questionnaire. You may also register to receive a summary of the research findings when it is concluded.

To start the survey please click on this link: [Cost variation survey](#)

Briefly round the regions

Auckland Structural Group : Events were held:

- **11 September:** ASG special event#1 – IPENZ 100 year celebrations. 200 attendees enjoyed presentations on site relating to the Auckland Town Hall and Civic Theatre strengthening project.
- **24 September:** ASG special event#2 – IPENZ 100 year celebrations. 150 attendees for tour and presentations on the Auckland Art Gallery refurbishment.



Auckland Art Gallery

- **13 October:** PRESENTATION – “Conceptual Design – Case Studies in the Lifetime of Structures”. Presented by Prof.Hugo Corres Peiretti

Wellington Structural Group : Recent meetings were as follows;

- **10 July:** Shear design and evaluation of concrete structures. Professor Michael P. Collins from the University of Toronto. Attendance 88 people and hosted by OPUS Wellington.
- **14 July:** Design of Buckling Retrained Braced Frame Systems. Presenter, Argan Johnson. Attendance 48 people and hosted by OPUS Wellington.



Professor Michael P. Collins

- **27 July:** Presidents Roadshow - SESOC Higher Qualification & Improved Practice Briefing by Paul Campbell , President SESOC. Hosted by BECA Wellington.
- **7 August:** Site Visit BRB Strengthened Building 57 Courtenay Place. Attendance 40 people and hosted by Vaughn England - Spencer Holmes Ltd and Alan Park – Holmes Consulting LP.
- **18 August:** Seismic Resilience Seminar – Isolation Systems by Dr. Victor Zayas. Attendance approx. 50 people and hosted By Aurecon Wellington.
- **14 October:** Conceptual design case studies of different moments in the lifetime of structures. Prof. Hugo Corres Peiretti. Attendance approx. 40 people and hosted By: OPUS.

Canterbury Structural Group: Events were held:

- **13 October:** An Evening with Professor Ken Hover, a former ACI president. Common issues with concrete floors.
- **15 October:** Conceptual Design. Case Studies of Different Moments in the Lifetime of Structures. Professor Hugo Corres Peiretti



Professor Hugo Corres Peiretti

- **22 October:** Site visit – Marriot House MAXRaft waffle foundation slab for TC2/TC3 land. A visit to the site of Christchurch’s first Certified Passive House to see the insulated slab being installed as the first step in this project which is expected to achieve a house which does not require heating.

Otago Structural Group: Events were held:

- **16 October:** The Otago Structural Group meet to discuss the draft changes to NZS1170.5. The group collectively made a submission on three items. 18 attended.