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Welcome to the first edition of SESOC NEWS. For general information regarding the NZ Structural Engineering Society (SESOC) and for committee contact details refer [www.sesoc.org.nz](http://www.sesoc.org.nz)

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### **SESOC**

**Structural Engineering Society of New Zealand**

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# SESOC News

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## President's Column

Welcome to the first edition of SESOC NEWS. Yes, we already have a Journal, but you'll know that is composed of more formal articles and papers. SESOC NEWS is to be a quarterly newsletter, in addition to the Journal, and is more about communicating to you what's happening at management committee level. It will also include current topics and events of interest to structural engineers in New Zealand. So it's not written in such a technical fashion, mainly because it's not solely about technical subjects. There may be some experimentation with the format and layout of the newsletter with the initial issues and as it becomes more established we plan to add more features such as clickable website links.

One goal of this newsletter is to update you, our members, on subjects discussed at recent management committee meetings. I'm not even sure that discussed is the right word - perhaps debated would be better. Because I want you to know there is not always total agreement on every subject, and often our meetings turn into a very lively and healthy debate. Current committee members come from a wide range of organisations and backgrounds and they come from all over the country. As the meeting chairman it would make my life easier if there was agreement all the time. But as a member of SESOC like you, I'm glad there is not. Because it shows there's a diversity of opinion on the committee. Which is just as it should be.



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**Ashley Smith**

SESOC President

## Snow and Ice Loading – Cautionary Note

With the summer holiday season approaching it may seem out of context to be thinking about snow and ice but this certainly is a relevant topic for some structural engineers in New Zealand at present. It is also an important topic for insurers. Following the heavy snow-storm that devastated parts of South Canterbury and the central south island in June, they're facing claims that add up to \$40 million or more.

The June snowstorm damaged a significant number of buildings. These included a number of light steel framed structures, but also some more significant structural steel framed industrial buildings. Although the full details of the damage may never be reported, SESOC has some interim recommendations, particularly for designers who may be unfamiliar with snow and ice loading conditions:

1. NZS4203 and AS/NZS 1170.3 both have reference to an exposure reduction coefficient that allows for the effect of snow removal, or shedding, from flat or shallow sloping roofs. It was notable both in this year's snow storm and in the previous large snowfall in Christchurch in the early 90's that there was little wind, and consequently this shedding did not occur. SESOC recommends a conservative approach using a coefficient of 1, i.e. no reduction, at least for sub-alpine snow conditions.
2. In both the cases noted above, the snow was followed soon after by rainfall. This would have increased the weight of the snow significantly and no doubt would have contributed to the damage that occurred.
3. The effects of sliding and drifting may increase the snow load considerably, particularly when the snow may drift from a higher roof level, or may accumulate due to the effect of the local landscape.
4. In many cases, NZS4203 is believed to be unconservative. In the interim changeover period while use of NZS4203 is still acceptable, SESOC recommends that designers also calculate the snow load from AS/NZS 1170.3 for comparative purposes and ensure that they have taken into account the factors noted above.

SESOC has communicated with DBH about the snow loadings and resultant damage to buildings and as a result DBH have commissioned NIWA to review available snowfall records and to further investigate snow loadings. Snow loadings specified in AS/NZS 1170 will be reviewed as a part of this process. The results of the DBH/NIWA investigation will be communicated to SESOC members when available.



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## Follow-up on IPENZ Taskforce Recommendations

Most members will know about the John Scarry open letter to IPENZ in late 2002 which raised concerns about the standard of structural engineering in New Zealand. It is important to remind members that SESOC is committed to maintaining a lead role in improving practices. Within a year of John Scarry's letter an IPENZ Structural Engineering Taskforce recommended several changes. SESOC was represented on that Taskforce by our then president Dr Barry Davidson. It is now deemed worthwhile summarising what SESOC has done to bring those recommendations to reality and to list what actions SESOC has planned to progress or resolve outstanding issues.

A full update from SESOC's perspective is to be published in the next SESOC Journal. The following brief notes are made under the headings of the original IPENZ Taskforce recommendations.

### **\* Development of Standards and Codes of Practice**

SESOC has been well represented on recent structural standards committees

SESOC has recently formalised an agreement with IPENZ to develop technical practice notes on several high priority subjects related to structural engineering.

SESOC is assisting DBH with their review of the NZ Building Code.

SESOC is currently involved with DBH, NZSEE and NZCS in a study group to formulate guidelines for assessment of precast hollowcore floors in existing buildings

### **\* Identification of competent structural engineers**

SESOC has a keen interest to ensure that those who provide structural engineering services to their clients and communities are capable. SESOC needs to work more closely with IPENZ to ensure that CPEng graduates are indeed competent in structural engineering.

It is also planned to work further with IPENZ, DBH & TAs to better facilitate feedback whereby bad practice by structural engineers is identified and followed up on.

### **\* Professional involvement through all stages of project delivery**

SESOC has always supported the IPENZ Taskforce's recommendation that preferably the project designer should observe the construction.

The SESOC committee sent a letter to all Territorial Authorities recommending an agreed level of construction monitoring as a pre-requisite to a building consent being issued.

### **\* Expand technical leadership role for DBH (replacing the now disbanded BIA)**

SESOC is committed to working with DBH on the Building Code review and sees it as an opportunity to make strong representations on issues affecting structural engineers.

### **\* Improved consent and audit processes**

SESOC has some concerns about the current situation and direction where, in our mind, there is too much emphasis on the process of building consent approvals and not enough emphasis on the technical review itself. We plan to publish recommendations on structural documentation and technical review for building consents.

### **\* Responsibility of building owners**

There is a relatively limited role for SESOC on this issue. However we must encourage all our members to set appropriate fees and discourage reduced service levels.

Maintenance procedures for structures also need to be highlighted to building owners.



### \* **Evaluation of new materials**



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The previous BIA Accreditation process for new materials has been discontinued. A replacement system for evaluation of new materials needs to be established. The current proposal whereby product certifications are to have the same standing as acceptable solutions under the building act may not be workable because of the increased liability and insurance demands that would be placed on material certifiers. Existing materials must also be evaluated on a consistent basis.

## Reinforced Concrete Beam Design Software



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SESOC, with funding assistance from the NZ Concrete Society, has progressed the development of the reinforced concrete beam design software package to a point where it is undergoing final checks and review of the user interface prior to release next year. It is intended to make the software available free to SESOC members much the same as the existing SESOC Soils software for retaining wall design. We are indebted to Esli Forrest for his continuing work on the development of that software.

## Recruitment of SESOC Executive Officer

This item was discussed at some length because a similar appointment has not been made previously. SESOC has much work to do and each member of the existing management committee is a busy person in their own career. With our membership numbering over 1200 now there is universal agreement by the management committee that SESOC needs to take a more professional approach to the way it carries out its business. To this end it is proposed to appoint an Executive Officer as a part time (perhaps 50% full-time) PAID position. While he or she will be expected to do some administration and secretarial work it was agreed that they must also have some understanding of structural engineering to be able to work sometimes independently and to provide the level of support required. To some extent the nature of the role is flexible and may depend on the skills and strengths of the person appointed. However some of the attributes sought are listed in the outline job description below:

### **SESOC Executive Officer**

#### Responsibilities:

- Provide leadership and co-ordination in the implementation of actions decided by the management committee in line with its objectives and strategic plan.
- Recommend strategic work programme and activities to management committee.
- Act as Project manager for study groups and activities undertaken by the Society, assisting in the preparation of budgets, planning, programming and monitoring of progress through co-ordination and encouragement.
- Ensure that projects are completed in a timely manner and monitor budgets and source funds where appropriate.
- Keep stakeholders informed of progress of studies and projects, and ensure that their requirements are being met.
- Assist in the preparation of letters, submissions and other presentations to government and other stakeholders, including the media.

#### Personal Development:

- Apply good time management to ensure that tasks are carried out efficiently.

#### Functional relationships:

- Report to President and Management Committee.
- Liaise with SESOC general membership as required
- Liaise with other technical groups on specific issues



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Person Specification:

- A tertiary qualification in engineering or science.
- Good understanding of the building and construction sector.
- Excellent written and oral communication skills.
- Good computer skills and an ability to learn and apply new skills.
- An ability to effectively manage time.
- Ability to work without any supervision and focus on tasks.
- An acceptance of the need to assist with a range of tasks and activities to ensure achievement of the Society's objectives and strategies.

An advertisement for this position will be posted on the SESOC web-site, in the IPENZ Engineering Direct newsletter and with other website agencies such as Job Seek. No appointment will be made if there is no appropriate applicant.



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If this role interests YOU or if you can recommend someone we would like to hear from you. Please contact SESOC President Ashley Smith at (09) 377 9739 or 027 3230 5153 or [ashley@structuresmith.co.nz](mailto:ashley@structuresmith.co.nz) for more information.