

STEEL FUTURES

LEVY INCREASE AN IMPORTANT MILESTONE FOR SCNZ

A resolution to increase the SCNZ levy was passed at a recent Special General Meeting. This increase, aside from an exchange rate adjustment in 2007, is the first since its inception in 2002.

A significant drop in SCNZ levy in 2009, following a sharp decline in steel volumes resulted in an operating deficit for the 2008/2009 financial year and a reduced budget for the 2009/2010 financial year. This situation has necessitated a reduction in SCNZ staff numbers and cuts in publishing costs.

The increased levy will return SCNZ to a stable financial position and allow important initiatives to proceed. Going forward there is a need to allocate resources for a marketing position to grow the market share of steel and to defend the current market share against the threat of imported steelwork.

It is appropriate given this recent increase in the levy to reflect on the role of SCNZ as the industry organisation representing the local steel construction sector. Steel Construction New Zealand and its fore runners; SCI-NZ and the Structural Steel Analysis Service (formerly a division of HERA) in conjunction with HERA have been instrumental in the vastly improved market enjoyed by structural steelwork in the commercial construction market in New Zealand. While there are only limited historical records of the market share of structural steelwork in the local commercial building market, it is known

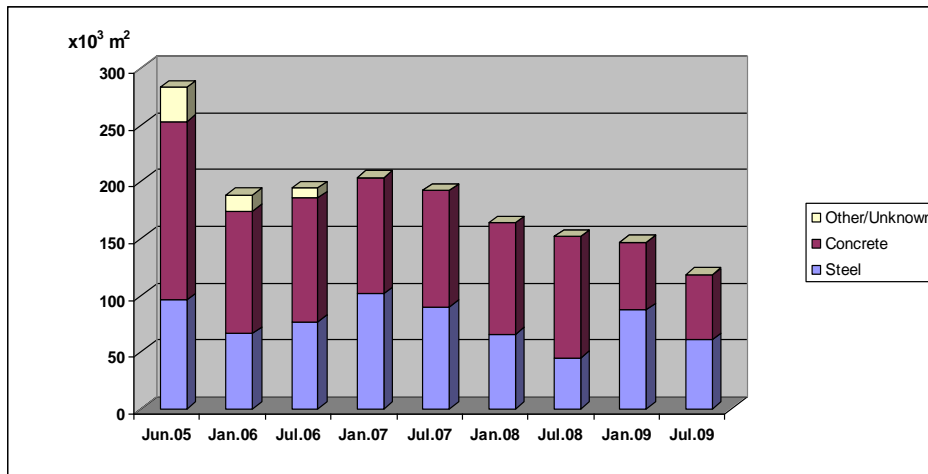
anecdotally it was very low in the wake of the construction of the BNZ building in Wellington completed in the mid 1980s. A recent survey of the Auckland CBD has shown steel to enjoy 50 % market share by floor area for commercial building projects. This is up from a figure of 34% in June 2005.

Furthermore in the ten years to 2008, steel volumes used for building construction in New Zealand have doubled.

An important part of this success has been the preliminary design service. Over the past 15 years optimized steel options have been developed for over 200 buildings. In 2009 steel options have been prepared for 10 multistory buildings. Of these, decisions have been made to build in steel for two of them. A third project which is very substantial, in the order of 20000m² is also very likely to be built in steel. Decisions are still pending on others.

A feature of the project work this year has been the interest of builders in looking at steel options even at the tender stage of projects as they look for a competitive edge to win contracts. While none of these tender projects were successful, principally because the projects were too

advanced, the clear message to builders and project design teams is that steel has regained its competitive edge on concrete following a significant drop in the price of steel long product and competitive pricing by steel constructors this year.



Auckland CBD Construction Activity - By Floor Area

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UPCOMING EVENTS

2010
 March 16 - 25 March —Steel Structures Seminar Series

THE SCNZ YEAR IN REVIEW

In addition to the project work, SCNZ staff have been busy this year supporting engineers with their structural steel design. Over 100 technical queries such as coating selection, seismic design and bolting have been answered.

Two nationwide seminars have been presented to approximately 280 structural engineers covering topics such as new seismic load resisting systems (reduced beam section, steel plate shear walls), cost effective portal frame design and detailing, and an overview of the new Steel Structures Standard (NZS3404.1). These seminars were rated highly by participants.

Steel Advisor, a repository of technical articles of immense value to design professionals, were also published bi-monthly.

SCNZ Structural Engineers Alistair Fussell and Clark Hyland have made over 40 visits to the offices of consulting engineers over the course of the year.

In March SCNZ hosted Peter Stutchbury, one of the leaders of a new generation of Australian architects, to give a series of talks to audiences in Auckland, Wellington and Christchurch. The title of his talk was "... from where we once were ..." which reflected one of Peter's

central ideas: that our origins inform our work.

Peter also spoke about winning the 2008 Living Steel prize for architecture in extreme climate, a project in Cherepovets, which is between Moscow and St Petersburg, Russian Federation. Around 200 people attended these interesting talks.

In May SCNZ hosted 24 final year civil engineering students at Auckland University for an annual field trip to a major steel construction project. This year the field trip focused on the Britomart East project. When completed it will be the new headquarters for Ernst and Young, and Westpac Bank Ltd.

In November, Alistair presented steel design awards to two final year students at the Auckland University Engineering School prize giving.

Steel Construction New Zealand played an important role along with other industry representatives in the

STUDENT AWARDS

Every year SCNZ encourages fourth year students at the University of Auckland to give serious consideration to a career in steel. An SCNZ prize is awarded to the top student in the course 411 Structures and Design 4.

This year awards were presented to two outstanding students only separated by a gnat's whisker. When all the marks were collated there was only ½ a mark difference between William Stone and Andrew Thompson. Sealing the deal to award prizes of \$500 to each of the students, was the outstanding 4th project in steel, prepared by runner up

development of the recently published Part 1 of the Steel Structures Standard: Materials, fabrication and construction (NZS3404:1). The former SCNZ Manager Clark Hyland chaired the Standards committee while the other SCNZ engineers served on a working group that prepared the initial draft document considered by the Standards Committee. This is an important document for Steel Construction sector as it prescribes the requirements for the fabrication and erection of Structural Steelwork in New Zealand. It features clearer information on tolerances, corrosion and new provisions for architecturally exposed steelwork and weld testing requirements, particularly for seismic applications.



Even though the very popular SCNZ magazine was cut this year for budgetary reasons, case studies highlighting excellence in steel construction have featured in the Building Today magazine. To date six case studies have been published in 2009.

SCNZ members have also been kept up to date with industry trends and developments through regular publication of this "Steel Futures" newsletter. This publication is also bi-monthly.

Two members events were staged around New Zealand. The first was held in the sunny Hawkes bay in March, followed by a second event in New Zealand's adventure tourism capital Queenstown. These events were an opportunity for relaxation, networking and for discussing issues of interest to the steel construction industry.



SCNZ have also participated in a number of industry training initiatives. They have worked with Competenz to have a new Construction Strand added to the Heavy Fabrication qualification and the development of draft steel detailing qualifications. A strategic advisory group made up of industry representatives has now been formed to work with Competenz next year to complete development of two NZQA recognized qualifications for Steel Detailers.

top final year engineering design student Andrew Thompson, which had his supervisor Dr Charles Clifton waxing lyrical about its quality.

Both of these students have very bright futures, and we wish them all the best in their chosen careers.



SCNZ Student Prize winners Charles Stone (left) and Andrew Thompson (right) with Acting SCNZ Manager Alistair Fussell (middle)

UPCOMING SCNZ STEEL STRUCTURES SEMINAR: COATINGS, COMPOSITE FLOOR CONSTRUCTION AND BRACED FRAMES

Mark in your diary the upcoming Steel Structures seminar series. Sharpen your technical skills and gain valuable CPD hours.

SCNZ Engineers will be accompanied for this series by HERA's Structural Systems Manager Stephen Hicks, who has considerable experience and expertise in composite floor construction.

The full day seminar for structural engineers will feature:

- long span and slim floor composite floor systems
- composite columns and innovations in composite floor construction
- braced frames with an introduction to the design of a new seismic resisting system (buckling restrained

braces) and

- coatings systems – getting what you specify
- The seminar will follow a lecture/workshop format to allow attendees to apply the material to practical problems.

Seminar dates and venues are as follows:

Taupo - 16 March

Millennium Hotel

Auckland - 18 March

Novotel Hotel, Ellerslie

Christchurch - 24 March

Crowne Plaza Hotel

Takapuna - 17 March

Fairway Lodge

Nelson - 23 March

Fairfield House

Wellington - 25 March

West Plaza Hotel

Please visit the SCNZ website, www.scnz.org, for more details and a registration form.

STEEL CONSTRUCTION IN BUILDING TODAY

SCNZ is running a steel construction feature with Building Today. In each feature we will be promoting excellence in steel construction. In particular we are looking for projects big or small in which a member company has shown excellence in some or all of the following:

1. Quality management in the workshop and on-site
2. Technical innovation
3. Project management
4. Health and safety practices

5. Environmental management in the workshop and on-site

SCNZ will write the article, you just need to tell us what you have been doing.

If you have a project you would like considered for an article please contact Rebecca at rebecca.symonds@scnz.org or phone 09 262 6682. Thank you.

Previous articles can be viewed in the Building Today September, October and November issues or on the SCNZ website.

SCNZ DESIGN GUIDES AND SOFTWARE

To make life easier for the steelwork designer, SCNZ has developed a suite of design guides, often with accompanying software. This suite includes: SteelDoc which covers the management of design documentation; SteelEst has regularly updated supply and fabrication rates for estimators; SteelConnect gives technical guidance on member connections and features pre engineered connections; CombPen addresses the design of steel beam penetrations; and SteelDeck gives technical guidance on point loads on metal deck composite slabs. Steel in Housing is an on-line design aid to assist builders, draftpersons, engineers and architects to specify and use a range of pre-engineered structural steel beam solutions in various residential building applications. A tutorial is presented in the Steel Advisor article HUS1001.

For further information visit the SCNZ website www.scnz.org and click on Design Tools.

STRUCTURAL HELP DESK

SCNZ Engineers have a wealth of information and expertise at their finger tips to answer your structural steel design and construction questions.

Over the last year we have provided assistance to over 100 engineers and technicians around New Zealand. A wide range of questions were received. The most common questions were on materials, connections, coatings and member design.

For technical assistance please contact Kevin Cowie on 09 262 6685 or email kevin.cowie@scnz.org.

Lintels Supporting Truss Roof

Step 1 of 4
Enter the specifications of the beam you would like to design.
Use the diagram to the left as a reference
Note: Post heights cannot exceed 2.7m

Name	B1
Lintel Span (m)	4.5
Measurement A1 (m)	3
Measurement A2 (m)	3
Post Height (m)	2.6
Isolated Post	<input checked="" type="radio"/>
Wall Post	<input type="radio"/>
Light Roof	<input checked="" type="radio"/>
Heavy Roof	<input type="radio"/>
Low Wind	<input type="radio"/>
Medium Wind	<input checked="" type="radio"/>
High Wind	<input type="radio"/>
Very High Wind	<input type="radio"/>

Submit

Steel in Housing on-line Design Aid - Sample Input Screenshot



Kevin Cowie, SCNZ Structural Engineer.

Want to know more? Please tell us what you would like to know about in the space provided below, fax this page back to us and we will be in contact with you.

Would you like to become a SCNZ member? For an annual subscription of only \$100 + GST you can enjoy the benefits of belonging to an association dedicated to the advancement of steel construction.

Please tick the box below and fax back to 09 263 5638.

Yes, I would like to become a SCNZ member.



SEASONS GREETINGS

SCNZ staff members Alistair, Kevin and Rebecca, wish all members, supporters and their families a Merry Christmas and a Happy New Year!



From left: Rebecca Symonds (Administration), Alistair Fussell (Senior Structural Engineer/Acting Manager), Kevin Cowie (Structural Engineer)

TRADES @ SCHOOL

The report card at the halfway stage of the two year pilot programme Trades@School run by former SCNZ Training Officer John Kotiosuva is very good. The Trade@Schools programme allows year 12 and 13 High School students to complete engineering fabrication unit standards and to gain workshop experience with SCNZ member companies while still at school. In spite of some teething problems which is to be expected in a pilot programme, the feedback from all the parties involved; schools, students, parents, Manukau Institute of Technology and the C-ME Mentoring Trust is very

positive.

Of the 18 students that started the programme, 17 have completed the first year. One has left school and joined the army. Most of the students have displayed a good attitude and aptitude to the fabrication technology studies and have passed a good proportion of their unit standards.

The intention is to roll this programme out around the country at the completion of the two year pilot scheme to help member companies recruit and train young people.

STEEL ADVISOR LATEST ISSUE

The latest Steel Advisor issue contains 3 useful articles for seismic design.

The **Lateral Restraint of Yielding Regions in Columns and Beams in Multi-Storey Buildings** article prepared by Dr Charles Clifton (University of Auckland) provides general guidance on applying the lateral restraint provisions for yielding regions given in the *Steel Structures Standard* NZS3404 to columns and beams of multi-storey buildings. It includes simplification which can be made when applying these provisions.

All steel members which form part of a seismic resisting

frame are classified into one of 4 categories based on element slenderness ratios for the purpose of seismic design. Two Steel Advisor articles are written classifying I sections into seismic member categories, one for hot rolled sections, and the other for welded sections.

The Steel Advisors articles are available for subscribers at www.scnz.org/steel-advisor.

