

STEEL FUTURES

CONSULTANT VISITS

SCNZ Acting Manager, Alistair Fussell and HERA Structural Systems Manager, Dr Stephen Hicks, have in February undertaken a series of consultant visits in Christchurch and Wellington. Stephen Hicks was formally Senior Manager Building Engineering at the Steel Construction Institute (UK) and has considerable expertise in composite floor construction. He will accompany SCNZ Engineers at the upcoming Steel Structures Seminars.

The consultant visits were a good opportunity to introduce to structural engineers key contacts for steel design support following the departure of high profile personnel from the respective organisations in the past couple of years. They also afforded the opportunity to clarify the roles of SCNZ and HERA and to report on significant projects undertaken in 2010 of interest to structural engineers such as seminars and standards development. For further information on the support services provided by SCNZ for the steel design and construction sectors, please visit the SCNZ website at www.scnz.org.

Recent significant drops in the price of structural steel

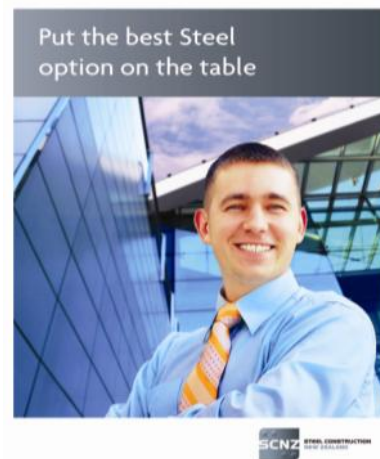
NEW PRELIMINARY DESIGN SUPPORT SERVICE BROCHURE

A new brochure promoting the SCNZ preliminary design support service has been rolled out during recent consultant visits.

This service has been a key plank in the strategy to grow the market share of structural steel in building and bridge construction.

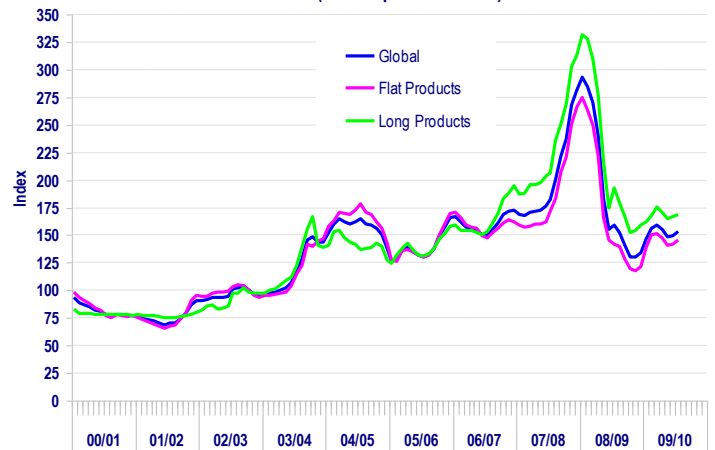
The free preliminary design service helps engineers, architects and builders explore the potential of structural steel solutions for their building projects utilising the specialist steel design and costing expertise of the SCNZ Structural Engineers.

If you would like copies of the brochure to give your clients, please contact info@scnz.org or for a PDF version of the brochure visit our website www.scnz.org.



long products and plate as well as competitive pricing by steel constructors has seen structural steel regain its competitive edge in the commercial building market. This has been borne out in builder costing feedback received following recent SCNZ project work. February's office visits were an opportunity to remind structural engineers of this fact.

CRU Global Steel Price Index (Fin Yrs)
(Index April 1994 = 100)



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UPCOMING EVENTS

- 2010**
- March 16 - 25 — Steel Structures Seminar Series
 - April 19 — SCNZ Members Event
 - October 19-22 — The 9th Pacific Structural Steel Conference

SCNZ MEMBERS EVENT—MOTIVATE OR MOTORV8? 19TH APRIL 2010



Whether you are nearby at the V8 street races or just looking for motivation, join with other SCNZ members and:

- Take the opportunity to network with other influential steel construction industry people.
- Learn how the local steel construction industry is responding to the threat of imported fabricated steel work.
- Upskill yourself on the last Steel Structural Standard that will impact steel fabrication and erection in NZ.
- Hear about the work SCNZ is doing on your behalf to promote the use of structural steel.
- Enjoy an after dinner talk presented by OneSteel on the steel market outlook.
- Relax in beautiful surroundings and well appointed venues.

The members event will be held from 12pm, with an amphibious vehicle tour and waka racing.



When the event has ended and everyone has freshened up, afternoon tea will be held followed by the Members Forum.

After relaxing pre-dinner drinks, everyone will be transported to Skyline Skyrides, where the gondola will carry you up Mount Ngongotaha, 487 metres above sea level, providing panoramic views of Rotorua City, Lake Rotorua and the surrounding area, to our dinner destination, Cablebay Restaurant.

After dinner, OneSteel will present a talk on the steel market outlook.

If you have not received your invitation, please email info@scnz.org or download one from our website at www.scnz.org.

We look forward to seeing you all there!

STEEL CONSTRUCTION IN BUILDING TODAY MAGAZINE

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 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.

PREDICTION OF SLOW RECOVERY REMAINS UNCHANGED

While not wanting claim the powers of Nostradamus, the prediction of a slow recovery of the construction industry in the May 2009 edition of Steel Futures is supported by a recent quarterly report prepared by the Department of Building and Housing (DBH). This new report according to the DBH will provide a comprehensive review and analysis of trends in the construction sectors.

In summary this report states;

“The non-residential sector is showing signs of weakness after providing a solid base to the construction sector over the past four years. Development finance has dried up, and it is difficult to make a case for new investment when vacancy rates in commercial, retail and industrial property are steadily rising. With private development in decline, ongoing public spending on infrastructure will become increasingly important to companies involved in project design and heavy construction.”

This pessimistic prediction comes on the back of declining building consent and construction activity data (figures 11 and 14).

The full report can be viewed at the following web address: <http://www.dbh.govt.nz/building-and-construction-quarterly-report-1>

The slow down in construction activity has directly impacted on the local steel construction sector with a significant decline in imported steel tonnage for the 2009 year compared to the 2008 figure.

FIGURE 11

CONSTRUCTION ACTIVITY (\$B) SEASONALLY ADJUSTED QUARTERS

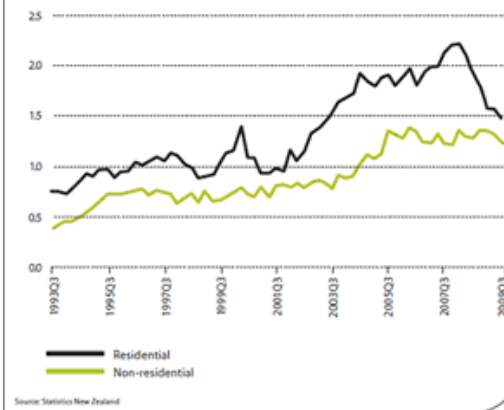
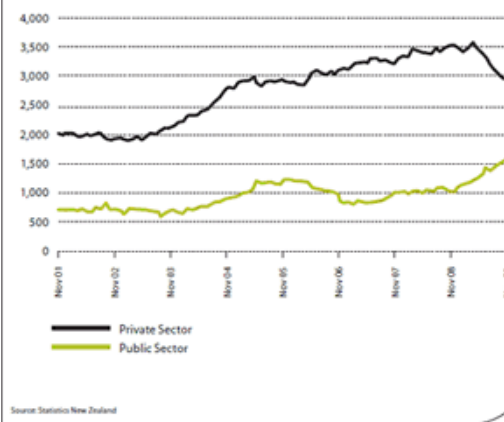


FIGURE 14

NON-RESIDENTIAL BUILDING CONSENTS (ROLLING ANNUAL VALUES) (\$ MILLIONS)



REVISED FIRE, EARTHQUAKE AND COMPOSITE STEEL STANDARDS TO BRING VALUE TO THE STEEL INDUSTRY

The fire, earthquake and composite steel parts of the *Steel Structures Standard*, NZS 3404, are currently undergoing major revisions. A feature of the revised *Steel Structures Standard* will be the change of format. The standard will now be sub-divided into seven parts with the commentary clauses incorporated into the body of the standard.

SCNZ have recently organized and hosted the 2nd design for fire working group. Good progress has been made and it is expected that a final draft will be ready midyear for the full Standards Committee. In recent years there have been significant advances in the structural fire design of multi-story steel buildings. The aim of the revised design for fire part of the *Steel Structures Standard* is to incorporate all



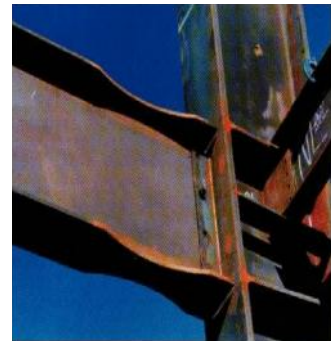
these currently used fire design approaches into one compliance document to help the passage of steel building projects through the consent process.

The new fire part will include guidance on the design of passive protection systems (intumescent coatings, board encasement etc), methods for calculating the capacity of elements of structure at

elevated temperature, a frame work for undertaking advanced analysis such as finite element modeling, clarification of the performance requirements for car parking buildings, structural stability of boundary fire walls, and the recognition of new fire design procedures (Slab panel and radiation barrier methods).

New innovative seismic systems will be included in the revised design for earthquake part of the *Steel Structures Standard*. This will give engineers more tools to use in designing steel buildings and will lead to greater acceptance of new technology by the design and construction sectors. The new systems to be introduced include moment frames with sliding hinge joints, steel plate shear walls, buckling restrained braced frames (BRB) and moment frames with reduced beam sections. SCNZ engineers Alistair Fussell and Kevin Cowie have presented seminars to engineers in the last year on three of these types of seismic systems and Alistair is giving a presentation on the remaining seismic system, BRB, in the upcoming SCNZ technical seminar series.

Dr Stephen Hicks of HERA will lead a working group preparing a new draft for design of composite members.



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.

NEED HELP WITH STRUCTURAL SEEL DESIGN? CALL THE 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.

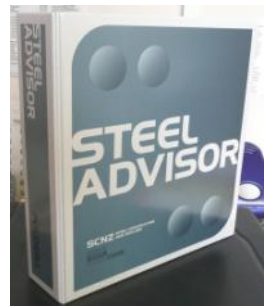
For technical assistance please contact Kevin Cowie on 09 262 6685 or email kevin.cowie@scnz.org.

STEEL ADVISOR LATEST ISSUE

The latest Steel Advisor issue contains a useful article for the design of metal deck composite floors subjected to concentrated loading. The **Fire Design and Serviceability Issues – Metal Deck Slabs Subject to Concentrated Loading** article is written by Alistair Fussell (SCNZ), Dr Charles Clifton (University of Auckland, previously of HERA) and Dr Clark Hyland (Hyland Fatigue and Earthquake Engineering, previously of SCNZ)

In some applications such as bulk retail projects the metal deck composite floors must be capable of sustaining heavy concentrated loads from racking systems and goods handling equipment such as forklift trucks. Amongst other things, two important design issues need to be considered in these situations.

Firstly the floor system must remain stable during emergency fire conditions and secondly the slab deflections must stay within acceptable limits. The latest Steel Advisor article provides procedures suitable for design office practice to address both of these issues with particular reference to slabs subject to concentrated loading. The use of these procedures is illustrated by way of worked example.



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

THE 9TH PACIFIC STRUCTURAL STEEL CONFERENCE OCT 19-22, 2010 – BEIJING

The Pacific Structural Steel Conference (PSSC) is a major initiative bringing together expertise in structural steel research, education and construction from all around the Pacific Rim and beyond to promote cooperation among the structural steel associations and communication on development in the field of steel structures in Pacific countries.

Without doubt the Chinese are the best hosts in the world and this conference will be spectacular, in not only technical content and cross-cultural interaction, but also in the best of Chinese hospitality.

For more details, please visit the PSSC conference website at www.pssc2010.com

