

# STEEL FUTURES

## SCNZ MEMBERS ENJOY QUEENSTOWN AGM AND MEMBERS EVENT

Steel Construction New Zealand members and their partners from around the country converged on New Zealand's adventure tourism capital Queenstown for two days of meetings and events. The Novotel Hotel situated on the lake front was the venue for the 2 day gathering.

Members and their partners were entertained and challenged by after dinner speaker, Rob Hamil, with his humorous recounting of his Atlantic rowing exploits. Rob has a firm belief that with passion anything possible. This inspiring message was intertwined into his presentation.

At the AGM the contribution of outgoing chairperson Evan Kroll (Stevenson's Structural Engineers Ltd) to the organisation was recognised by his successor Chris Kay of New Zealand Steel Ltd. Congratulations to Chris Kay and Mike Sullivan (D&H Steel Construction Ltd) on their election as SCNZ Chairperson and Vice Chairperson respectively.



*Rob Hamil with new SCNZ Chairman, Chris Kay.*

The gathering afforded an opportunity for the steel construction industry to farewell SCNZ Secretary Manager, Clark Hyland, who is off to start his own specialist consulting engineering company.

The event concluded with a three hour Dart River Wilderness safari experience which consisted of a 4 wheel drive coach tour and jet boat ride on the Dart River taking in the spectacular Central Otago scenery.

After the exhilarating jet boat ride, a number of members and their partners stayed on to enjoy the spring snow on the various ski fields surrounding Queenstown.



*The members dinner.*



*SCNZ members and partners get organised on the jet boat for the Dart River safari.*

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### UPCOMING EVENTS

**2009**  
December 4—SCNZ Executive Council meeting  
**2010**  
March/April—Steel Structures Seminar Series

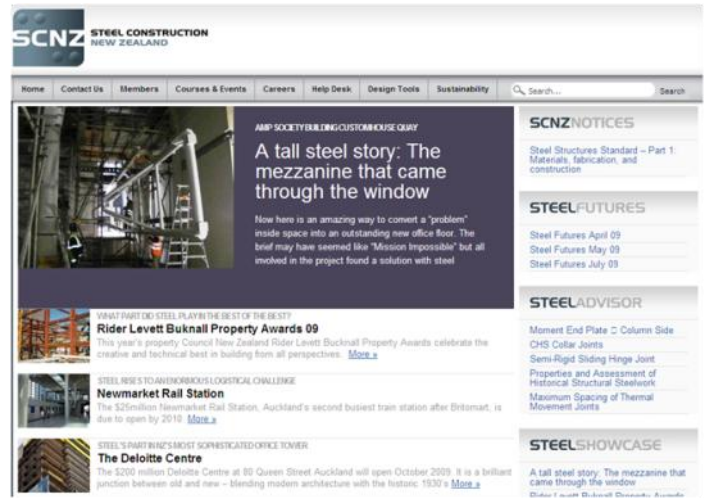
# UPGRADED SCNZ WEBSITE

SCNZ has launched its new look website that now features current case studies and news on the home page.

All the previous features such as access to the Steel Advisor articles, Online Connections and Estimating guides are all still available.

There is now also a search feature for ease of navigating the website.

If you have any comments or queries about our new website, please email [info@scnz.org](mailto:info@scnz.org).



The new look SCNZ website

## STEEL STRUCTURES STANDARD PART 1 NOW PUBLISHED

Standards New Zealand has published **Steel Structures Standard – Part 1: Materials, fabrication, and construction (NZS 3404.1:2009)** which will supersede in part NZS 3404 Parts 1 and 2:1997 including Amendments 1 and 2 (NZS 3404:1997).

The Steel Structures Standard will now include a suite of seven parts that are grouped by general topics. NZS3404:1 2009 is the first part to be released in this new format. The advantage of this format is that fabricators and material suppliers will not need to buy the design sections they do not use. In addition to fabricators and material suppliers, this document will also be an important document for builders, architects, building control authorities, coating

applicators and structural engineers.

Part 1 sets out the minimum requirements for the selection of materials, corrosion protection systems and the fabrication and erection of steel structures including buildings, and highway and railway bridges.

This new Standard includes clearer information on tolerances, corrosion, architecturally exposed steelwork and weld testing requirements, particularly for seismic applications.

Please visit [www.scnz.org](http://www.scnz.org) for the link to the Standards website for further information.



## 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](mailto:rebecca.symonds@scnz.org) or phone 09 262 6682. Thank you.

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

## FAREWELL TO CLARK

Clark, in his position as Secretary/Manager, played a significant role in establishing Steel Construction New Zealand Inc. as a well respected professional organisation since its inception as an incorporated society in 2006.

His involvement with the Steel Construction Industry dates back to 1996 when he was employed as the HERA Steel Structures Analysis Services Manager.

During the past 13 years Clark's drive and technical ability has been instrumental in the improved market share enjoyed by structural steel in multi-storey construction in New Zealand and the publication of many design guides and aids regularly used by local Structural Design Practitioners. In the latter years he has served as SCNZ's representative on various Standards committees including the Steel Structures Standard, of which he is now currently

chairperson.

In his 13 years at HERA/SCNZ Clark somehow managed to find time to complete a PhD in Civil Engineering at Auckland University. He has now taken the opportunity to use his knowledge gained from this course of study to start a consulting engineering company specialising in fatigue and fracture.

We wish Clark all the best in his new venture.



## PRACTICAL SCNZ SEMINAR SERIES ENJOYED BY ALL

Steel Construction New Zealand Engineers Clark Hyland, Kevin Cowie and Alistair Fussell and Steltech Engineer Jamie Macredie have just completed a five centre technical engineering seminar series attended by approximately 100 Engineers from around New Zealand.



*The seminar room at the Crowne Plaza, Christchurch*

Engineers who attended the seminar rated the seminar very highly and were appreciative of the seminar content. It was intended that the seminar should be practical and relevant to design practitioners. Based on the feedback received, the seminar appeared to hit the mark in this regard.

The topics covered included cost effective portal frame design, moment resisting frames with reduced beam sections and steel plate shear walls. Smart design and detailing can have a significant impact on the cost of steel portal frame buildings. In the portal frame session Clark discussed cost effective structural arrangements with particular emphasis on optimizing the combination of critical components: cladding, purlins and portal frame member sizes and connections. Jamie's presentation focused on practical tips for portal frame design based on his 10 plus years of experience at Steltech.

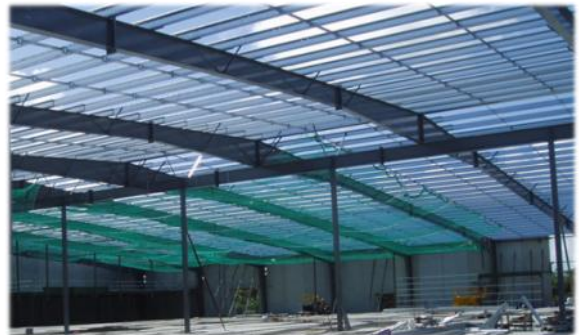
In the other sessions Kevin presented the background, testing and development of the reduced beam section moment connection for use with seismic load resisting

moment frames. Participants had the opportunity to complete a worked example which illustrated how moment resisting frames could be optimized with the use of a reduced beam section. Alistair gave an in depth presentation of steel plate shear walls covering research, theory and design. Practical construction issues and cost drivers were also covered. Again participants had the opportunity to complete a design worked example.

There was good interaction from participants. In particular participants took the opportunity to not only ask questions but also to discuss their own portal frame design experiences. An interesting issue that emerged from the Takapuna seminar was whether designers should consider the case of a 'roller door' blowing out during high winds. This had been the cause of significant damage to some Northland structures recently. The lesson from this experience is that designers need to ensure that the roller doors have been designed to remain intact during an ultimate limit state wind event.

The series began in Taupo before heading north for two seminars in Auckland. The southern leg of the series kicked off in Nelson and was followed by Christchurch. Once again there was an outstanding turn out to the Nelson venue.

Preparations are well underway for the next steel structures technical seminar series in late March / early April. Watch out for details of this series. This seminar will be very practical and will cover some new and exciting steel structures innovations. A seminar not to be missed!



*Seminar topics included design tips for portal frames.*

## EXCELLENT PROGRESS IN DEVELOPMENT OF STEEL DETAILING QUALIFICATIONS

A strategic advisory group (SAG) of steel detailers chaired by Cedric Easthorpe of BDS Vircon is working with Competenz to develop steel detailing qualifications. The SAG is made up of industry representatives from steel fabrication companies, specialist steel detailing companies, a consulting engineering company and Steel Construction New Zealand.

At a recent SAG meeting the group agreed that the best approach to meeting the industries needs was the development of two separate qualifications. One would build on the other with the first qualification, a level 4 National Certificate being a prerequisite to the advanced Level 5 National Diploma. The qualifications would allow various pathways for school leavers, qualified fabricators, existing steel detailers and Polytech students with recognition given

for prior experience and study.

These qualifications will consist of a range of South African and local unit standards covering basic steel fabrication, draughting, project management and shop detailing. The actual delivery model has yet to be confirmed but it is envisaged there will be combination of courses delivered by Polytechs and some involving on job assessment.

The development of the unit standards that make up the qualifications and the qualifications themselves has been programmed for 2010 by Competenz. After these have been developed they must be reviewed and approved by the New Zealand Qualifications Authority prior to being placed on the National Qualifications framework.

**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.**

## INTERNATIONAL AWARD FOR INNOVATIVE STEEL BUILDING

The Te Puni Village project, high rise accommodation for Victoria University in Wellington constructed by SCNZ member company MJH Engineering has been internationally recognized by the Institution of Structural Engineers (UK) in their 2009 Structural awards. Structural designers Aurecon (Wellington) have won the "Education or Healthcare category.



**Rocking detail featuring Ringfeder springs.**

a major fault that was to remain functional as a disaster operations centre after an earthquake event.

The major structural engineering innovation that attracted the judges attention was building's clever bracing systems. In a departure from conventional seismic design philosophy which accepted a certain amount of member damage following an earthquake event, the designers used sliding or rocking connections to dissipate seismic energy.

The solution adopted by Aurecon was a perimeter moment

The judges commented the project was a "worthy project bringing true innovation into the field of seismic design and economy to what could otherwise have been a very expensive building."

The challenge for the designers was to develop a cost effective solution for a building located 2 km from

a major fault that was to remain functional as a disaster operations centre after an earthquake event.

The major structural engineering innovation that attracted the judges attention was building's clever bracing systems. In a departure from conventional seismic design philosophy which accepted a certain amount of member damage following an earthquake event, the designers used sliding or rocking connections to dissipate seismic energy.

The solution adopted by Aurecon was a perimeter moment

frame in the longitudinal direction incorporating sliding hinge joints and in the cross direction concentrically braced frames which rock in a controlled manner during an earthquake by use of railway damper technology.

The sliding hinge joint used for the project was developed by Associate Professor of Civil Engineering at the Auckland University Charles Clifton when he worked for the Heavy Engineering Research Association (HERA).

Well done to all involved! This is an example of Kiwi ingenuity applied to steel building construction that has been recognised by the international structural engineering fraternity.



**Sliding hinge joint.**



## STEEL ADVISOR LATEST ISSUE

The latest Steel Advisor issue contains 3 interesting articles. Clark Hyland, former SCNZ Manager and Scott Miller, SCNZ Councillor, were part of the New Zealand team of engineers who surveyed the damage in Indonesia following the recent earthquake there. Clark and Scott write of some of their observations in a Steel Advisor article.

The **Transverse Slotted Hole Design Bearing Strength** article covers the appropriate design ply bearing strength of a long slotted hole loaded perpendicular to slot direction.

The **Steel Corrosion Rates in Water and Soil** article covers the background to the corrosion rates in the recently published NZS3404.1 *Steel Structures Standard - Materials, Fabrication and Erection*.

The Steel Advisors articles are available for subscribers at [www.scnz.org/steel-advisor](http://www.scnz.org/steel-advisor)

