

SCNZ STEEL CONSTRUCTION
NEW ZEALAND

STEEL FUTURES

SCNZ'S ROLE IN PROMOTING BUSINESS EXCELLENCE

Changes in the market place, including increased competition from imported fabricated products and demand from clients for better solutions and reduced costs, have led to SCNZ playing an increasing role in promoting business excellence in the steel construction sector.

This role really began to develop with the introduction of Regional Fabricator Forums in 2013. These Forums support the commercial needs and interests of SCNZ members specific to their region (Northern, Central and Southern) and raise the general awareness and understanding of sound business practices.

To support our members to continue to develop outstanding practices and strengthen performance, SCNZ is seeking to develop and implement a business excellence strategy (which will be headed up by our new senior structural engineer Chris Burns

- see page 2) in conjunction with members. For this to be successful there needs to be a common vision held by industry and SCNZ as well as a commitment to business excellence from our members.

To this end a series of fabricator focus groups will be held with the Northern, Central and Southern Fabricator Forums in April. An external business consultant will facilitate the

groups to maximise their value and the outcomes will inform the 2015/16 SCNZ business plan. The focus groups have been split regionally as we want to reflect the diverse market forces at play in the various regions and capture the potentially different outcomes for each group. **Please watch out for further details of these events and plan to be there.**

A second important business excellence opportunity is also on the horizon. HERA is currently seeking expressions of interest from fabrication businesses to participate in a Waikato University Management School Financial Benchmarking project. The SCNZ Executive Council supports this initiative and is encouraging members to participate. **For further details, please see page 2.** It is encouraging to see companies like Calder Stewart (see page 6) look beyond



Calder Stewart Steel's innovative new workshop

our industry and indeed our shores for inspiration and actively seek opportunities to streamline and improve their business and manufacturing processes. Hopefully this example of business excellence will become the norm for our industry and SCNZ will play a major role in providing you with the tools and resources for your team to lead your organisation to excellence.

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EXPANDING OUR EXPERTISE

We're delighted to announce that the New Year has begun with two new members of staff joining SCNZ. Chris and Ingrid Burns have made the move to New Zealand from the UK with their young family to take up exciting new roles at SCNZ.



Chris Burns
SCNZ Senior Structural
Engineer (Industry)

With 12 years' experience as a structural steelwork design engineer in the UK, Chris brings with him a wealth of hands-on experience. Most recently he headed up the internal Design and Build department of one of the most progressive steel fabricators in the UK and has also spent time working for the Asia-Pacific branch of Aurecon on notable projects such as Qantas Seamless Transfer departure lounge at Sydney Airport and Millmerran Power

Station, QLD. As Senior Structural Engineer for SCNZ, Chris will be primarily working on projects relating to industry as well as providing advice and support to our members. He will contribute to the SCNZ/HERA seminars in March (see page 4), be heavily involved with the Steel Fabricator Certification Scheme, and help educate clients on steelwork pricing.

With extensive experience of public relations and communications, working both in-house and for consultancies like Weber Shandwick across a wide range of sectors including construction, Ingrid will be helping develop our methods of communication to ensure that we are effectively reaching all our members and the industry as a whole.



Ingrid Burns
SCNZ Communications
Officer

TAKE PART IN A GROUNDBREAKING INDUSTRY BENCHMARKING STUDY

The increased demand for steel construction, resulting from the Christchurch rebuild and growth in Auckland, has led to the local industry coming under greater scrutiny, particularly from government, clients and at times the media. To better inform these stakeholders about the capacity and capability of our industry, HERA and SCNZ need reliable financial metrics.

In December the HERA Executive meeting supported an ongoing HERA research activity to gather specific data characterising the heavy engineering industry. This includes a highly confidential financial benchmarking study of the structural steel industry to be carried out by the Waikato University Management School.

The project has been endorsed by the SCNZ Council. The data generated (particularly subsector specific data) will be extremely useful to SCNZ members, enabling you to confidentially benchmark your financial performance against other companies and make informed planning and investment decisions to help ensure sustainability in the face of competition from imports.

It is crucial that we can demonstrate a good level of industry participation for the project to proceed. Your input will require minimal additional effort or cost and every

participant will strengthen the findings. Don't miss out on this unique opportunity to really understand your company's competitive position and support your industry's future success and sustainability.

Please contact HERA Director, Wolfgang Scholz, (email: exec@hera.org.nz or phone: 09 262 4848) today to indicate your willingness to participate.

All expressions of interest must be received by the end of March.

"Our industry needs to aspire to business excellence. This benchmarking exercise conducted by a reputable third party organisation will not only raise financial performance, but also provide SCNZ with the necessary financial data to act as the industry voice and better inform clients and other stakeholders, particularly about cost structure."

Mike Sullivan, SCNZ Chairman.

"We already get our accountant to provide us with this type of financial data, what will be really helpful will be to see how we compare with other companies of similar size."

Nick Morris, Nick Morris Engineering.

SETTING THE BAR IN STEEL FABRICATION

SCNZ is currently taking expressions of interest from companies seeking certification as part of the Steel Fabricator Certification (SFC) scheme. Newly certified companies will be recognised at the prestigious Metals Week NZ in the first week of September, attended by over 200 key industry stakeholders (including engineers).

Eight fabricator companies became the first to be certified at our Steel Agenda conference last year with the support of the Ministry of Business Innovation and Employment.

Developed jointly by SCNZ and HERA, the launch of the independent SFC scheme marked a significant milestone for

our industry as it represents international best practice and creates an important point of difference for locally fabricated steel compared with imported prefabricated steelwork.

Please contact SCNZ Manager, Alistair Fussell, (email: alistair.fussell@scnz.org or phone: 09 262 6683) to find out more.



BUILDING THE FUTURE

The next few years are shaping up to be an extremely busy time for New Zealand's construction sector. To support this sustained period of growth, SCNZ is investing in the promotion of careers in the structural steel sector, to ensure we are sending out positive messages to school leavers about our industry and the opportunities we can offer.

The *National Construction Pipeline* report predicts unprecedented demand by 2016 (with the 2016 peak forecast to be 23% above 2007's) and there has already been a noticeable upturn in construction activity.

SCNZ recognises that it is vital to start laying the foundations that will support this future growth by actively attracting the best and brightest school leavers to take up interesting and rewarding careers within

our industry.

Accordingly, we are pleased to announce that a new member of staff, Dawn Headley, has been recruited to promote careers in the sector. Dawn is currently liaising with industry, careers advisors and various training organisations to devise a strategy of re-engaging with high school students and careers advisors. Passionate industry people are the best ambassadors to influence young people to choose a career in steel.

If you would like to volunteer to help disseminate our excellent careers resources or if you have any suggestions as to how we can better work with industry to promote careers in the structural sector, please contact Dawn (dawn.headley@scnz.org).



Dawn Headley, who will be promoting careers in the structural steel sector

2015 EXCELLENCE IN STEEL AWARDS TO CELEBRATE TEAMWORK

Entries will open in April for the 2015 Excellence in Steel Awards, which recognise excellence in steel construction in New Zealand over the past two years.

The biennial Excellence in Steel Awards are administered by SCNZ. This year the winners will be announced at an Industry Awards Gala Dinner (alongside the winners of the 2015 Metals NZ Awards) to be held as part of Metals Week in the first week of September. This showcase event was the highlight of the 2013 Metals New Zealand Industry Conference and organisers are expecting this year's event to be well attended by over 200 key industry representatives.

Historically the judging criteria for the Excellence in Steel Awards has focused on the work of the fabricator. In reality a successful building project is a team effort comprising



architects, engineers, builders and fabricators. In recognition of this, the judging criteria is being widened to recognise the contribution of the designers (architects and engineers) and the constructors (builders and fabricators). The new criteria is expected to cover efficiency of design, future proofing to ensure longevity of structure, constructability and will be finalised following consultation with designers and constructors.

Entries close in July so now is a good time to start identifying suitable projects that you would like to receive national recognition for and to talk to the other team members involved to get them on board.

Watch out for further announcements about entries opening and details of the new criteria.

EDUCATING CLIENTS ON STEELWORK PRICING

In September 2014 an industry forum endorsed an exciting new initiative, Educating Clients On Steelwork Pricing, as a high priority after independent research commissioned by SCNZ found a lack of understanding of steelwork pricing amongst Professional Quantity Surveyors (PQS) and Builders.

Our new Senior Structural Engineer, Chris Burns (see page 2), who has fabrication industry experience including steelwork pricing, will lead on this project which will support PQSs and our own members to estimate structural steel projects accurately and efficiently.

An industry estimating group comprising Colin Berger (Grayson Engineering), Wayne Carson (D&H Steel Construction), Malcolm Hammond (MJH Engineering), Bob Hawley (Redsteel), Greg Jensen (Jensen Steel Fabricators) and Murray Scaife (Whakiti Engineering) has been formed to work with Chris. **Other SCNZ members who wish to participate in this working group are welcome.**

As a starting point, the project will engage with PQSs to

understand how industry can best support them in establishing reliable structural steelwork budgets for building project cost plans.

A key outcome is the development of best practice steelwork pricing and charge out rate methodologies. To this end, we have employed an external consultant to investigate the cost structure of fabrication businesses and establish a best practice methodology for computing charge out rates. Where appropriate, tools will be also developed to implement these methodologies and following this, a series of articles will be placed in relevant publications and workshops presented around the country to Quantity Surveyors.

With the increase of structural steelwork in the construction market, and the increased demand on our companies, it is vital that all parties can price steelwork reliably. **Please help make this project a success by filling in the short survey that Chris will be sending out to fabricator members shortly.**

PROPOSED NEW HIGH STRENGTH STRUCTURAL BOLTING STANDARD

SCNZ is due to propose the adoption of an alternative high strength steel bolt standard(s) at a forthcoming standards meeting in Sydney.

The Australian and New Zealand Standard AS/NZS1252 'High-strength steel bolts with associated nuts and washers for structural engineering' was last revised in 1996. In the intervening years, fastener technology has advanced and commercial and procurement environments have changed markedly.

A standards meeting, to be held at the end of February, will seek agreement on whether to significantly revise this

out date standard or replace it with an alternative international standard. Following consultation with industry (bolt importers and steelwork erectors) and engineers, SCNZ Senior Engineer, Kevin Cowie, will present a discussion paper at the meeting and propose the adoption of an alternative high strength structural steel bolt standard(s).

The discussion paper is available for download from the SCNZ website or may be requested from Kevin (kevin.cowie@scnz.org). A report on the outcome of this meeting will be included in the next issue of Steel Futures.

NATIONAL SEMINARS ON QUALITY MANAGEMENT OF WELDING FABRICATION

In March, SCNZ and HERA will be delivering one-day seminars in Auckland (18th), Hamilton (19th), Wellington (24th), Christchurch (25th) and Queenstown (27th) on the SFC scheme.

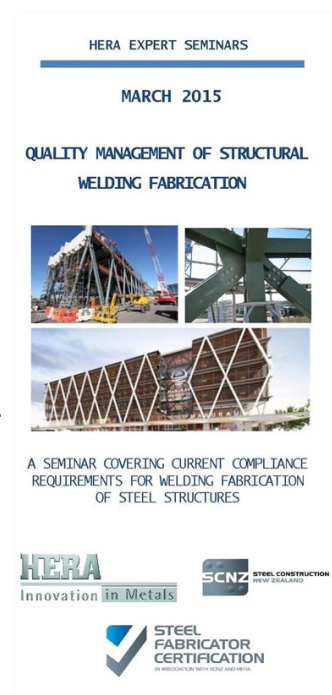
The scheme ensures participating fabricators not only manufacture to the specified quality, but that they also have appropriate personnel and quality management systems in place to meet national and international best practice standards. Weld quality is at the centre of the SFC scheme, and the welding quality management standard AS/NZS ISO 3834 and underlying fabrication standards AS/NZS 1554 and NZS 3404.1:2009 are the key certification plans.

Attendees will receive a comprehensive insight into the normative requirements of the existing Standards and those of the SFC, as well as guidance on how to specify quality requirements, establish a QA system, and verify compliance with a welding QA system.

The seminar is relevant to all people involved in procure-

ment, the specifying of welding fabrication related quality requirements, the set up quality management systems, and to those verifying compliance with the quality requirements.

SCNZ members enjoy a discounted delegate rate. **For more information and details on how to book a place, please visit www.hera.org.nz and click on the Events tab.**



BE PART OF OUR PICTURE – ANNUAL SUBSCRIPTIONS AND SURVEY

The annual membership renewal process is now upon us and you should have received your renewal reminder. As part of that process, all full members are required to complete a short survey which includes questions on annual turnover and tax paid; current and potential capacity; staff numbers; and investment in new equipment and technology. The aim of the survey is to paint a clear picture of the size and scale of the structural steel industry across New Zealand, as represented by SCNZ members. The vital

information will inform our planning for the future and our ongoing advocacy efforts with decision-makers in government and industry, as well as the media.

If you haven't yet completed the survey, please can you do so as soon as possible. Any new full members will also be required to complete the survey. Individual responses will be kept confidential and only industry-wide information will be used publicly.

Please return the survey to us by Friday 15th March.

NEW MEMBERS

SCNZ welcomed twelve new members during the forth quarter ending December 2014.

Professional (Engineer)

Cadworld NZ Ltd
Calibre Consulting Engineers
Opus International Consultants
Focus Engineering Consultants
Spray Marks Engineering
BVT Consulting Engineers
Meyer Engineering Ltd
Bonacci Group

Full (Steel Constructor)

Leading Edge Fabrication, Auckland

Affiliate (General)

Specialist Machinery Sales
NZ Engineering News

Associate (Erector)

Pickersgill Steel Erection Contractors

FOURTH INTERNATIONAL SPEAKER CONFIRMED FOR STEEL INNOVATIONS 2015

SCNZ is pleased to announce that Walterio López will be joining the already impressive line-up of international key speakers for the forthcoming *Steel Innovations 2015* conference.

Walterio López, SE, is Principal at Rutherford + Chekene (R+C), a leading Californian structural and geotechnical engineering firm. Walterio has led significant projects involving complex systems and design requirements, including the Stanford Energy Systems Improvements to replace the current natural gas powered cogeneration plant with an electronically powered regeneration plant. He has extensive knowledge of the seismic design and detailing of cost-effective structural steel systems and is an internationally recognized authority in the use of buckling-restrained braced frames.

He was awarded the prestigious AISC (American Institute of Steel Construction) T.R. Higgins Lectureship Award for his work on buckling-restrained braced frames design guidelines and has authored and co-authored technical papers on structural steel braced frames. Walterio is a director of SEAONC (Structural Engineers Association of Northern California), past chair of SEAONC's Steel Seismology Subcommittee and serves on two advisory boards for research projects dealing with innovative structural steel systems.

In his keynote address, Walterio will give an international

perspective on current buckling restrained braces (BRB) design and construction practice, and showcase examples of R+C's implementation of BRB's.

New Zealand does not currently have a standard that covers the design of BRBs, despite such elements becoming an increasingly popular form of seismic load resisting system for steel buildings. SCNZ is addressing this gap by forming a working group to develop a NZ BRB Code of Practice with Walterio acting as an international peer reviewer.

Steel Innovations offers the opportunity to learn from top local and international experts, gain valuable professional development hours, and network with fellow professionals. Professor Jeffery Packer of the University of Toronto, Dr Roberto T. Leon of Virginia Tech and Assistant Professor Lydeil Weibe of McMaster University in Canada have already been confirmed as keynote speakers. Delegates will be able to choose

from over 50 presentations covering seismic design, steel-concrete composite construction, fire engineering, durability, sustainability and steel bridges.

The Steel Innovations 2015 conference will take place on the 3rd and 4th September during Metals Week at the Aotea Event Centre in the heart of Auckland city. Details of corporate sponsorship packages will be available shortly.



Walterio López
International Speaker for Steel
Innovations 2015

REVISIONS TO BOLT TIGHTENING REQUIREMENTS

Changes to NZS 3404 bolt tightening requirements are expected as a result of research by the University of Auckland into minimum thread length for fully tensioned high strength structural bolts.

Currently the *Steel Structures Standard*, NZS 3404, states that for fully tensioned high strength structural bolts the minimum number of clear thread turn outs beneath the nut after tightening shall be:

- Five threads for a bolt length up to and including four diameters;
- Seven threads for a bolt length over four diameters but not exceeding eight diameters;



- Ten threads for a bolt length over eight diameters.

Introduced in the 2007, these requirements are out of step with international standards and result in the need for

packers in many bolted connections. University researchers have tested M20 and M24 bolts at various thread lengths, starting from current NZS 3404 requirements and decreasing down to the previous requirement which was for only one clear thread turn out beneath the nut after tightening.

An analysis of the results will be completed shortly but initial review indicates that on the basis of the research, a recommendation will be made that NZS 3404 bolt tightening requirements are changed to require a lesser number of threads.

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 provide your details below, and email to info@scnz.org or fax to 09 263 5638.

Company Name:.....

Primary Contact:.....

Phone:

Email:

CALDER STEWART STEEL TO DOUBLE FABRICATION CAPACITY

Calder Stewart Steel is set to double its output on the South Island after investing \$14 million in an innovative new workshop which follows the principles of lean manufacturing.

The new facility, which has created 12 new jobs, has been purpose-built to satisfy increasing market demand by streamlining Calder Stewart's supply of fabricated and painted steel.

Calder Stewart has an entrepreneurial approach to industrial and commercial construction and its Steel Division is recognised as a premium custom fabricator, capable of fulfilling a wide range of orders, varying in size, application and finish. As such, the company has increasingly sought ways to streamline steel detailing, pricing and final

wanted to create a workshop that would significantly increase throughput, help ensure we can deliver the flexibility that our customers require, and also improve quality assurance.

"In order to understand the principles of lean manufacturing, we went to Japan and spent time with the masters of efficiency at Toyota plants. It was truly inspiring and we have sought to apply what we learnt in Japan to create a workshop that is at the forefront of our industry in terms of innovation and efficiency.

Over 200 metres in length, with a customised paint booth at one end, the workshop features a beam drilling machine, which lay out and drill any steel profile in a fraction of the



Calder Stewart Steel's new workshop inspired by Japanese manufacturing approaches

fabrication through the use of state-of-the-art methods & practises, resulting in less site welding, more accurate structures and the ability to undertake large scale projects.

The company's new ultra-efficient fabrication workshop has been heavily influenced by the Toyota Production System, whose approach to lean manufacturing is renowned for its focus on improving workflow eliminating variance and consequently reducing waste.

Sean Lloyd, Calder Stewart Steel General Manager, comments: "We are constantly striving to exceed client expectations by improving our operations and finding better and more efficient ways to complete projects. To complement our use of modern detailing software, we

time it takes to do the work manually, and rotator trolleys which eliminate the need for overhead cranes and slings to position or turn the steel during the welding process. The major advantages of using rotator trolleys are the time savings associated with turning the steel by just pressing a button while the welders work and the increased safety of employees. A robotic copier ensures precision cutting and an automatic shot blaster reduces the need for manual cleaning.

Sean continues: "We are confident that we will successfully significantly increase the output of the local and indeed national, steel fabrication sector once the workshop is fully operational by the second half of 2015."

NEED HELP WITH STRUCTURAL STEEL 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. Call us on 09 263 5635 or email zahid.hamid@scnz.org.

WE WANT TO HEAR YOUR GOOD NEWS!

We'd like to remind SCNZ members to share your good news stories with us: big contract wins, new technology or exciting collaborations, for example. The opportunity is for both you and the industry to benefit from an increased profile and contribute to selling more steel.

We're looking for stories to illustrate:

- Local industry capability and content
 - Smart, high-tech industry
 - Seismic resilience
 - Strong commercial and design benefits
- So don't be shy, send us your news now!