

9th February 2016

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Dear Sir or Madam,

Re: Senate Enquiry – The future of Australia's steel industry

Who is NASH?

NASH is the acronym for the National Association of Steel-framed Housing Inc, an industry association representing the interests of the cold-formed steel fabrication industry in residential and low-rise construction. NASH is a strong supporter of effective regulation and good design and is the author and publisher of three construction standards referenced in the National Construction Code. NASH was formed in 1982 and has members throughout Australia and links to similar organizations internationally. NASH members supply approximately 80% of the cold-formed steel framing used in residential and low-rise construction in Australia.

NASH members design, rollform, fabricate and assemble frames for houses and similar low-rise buildings, using cold-formed metallic coated steel. Our members also include businesses that supply materials, equipment and services to the fabrication process, as well as academic and research professionals. The industry has always been highly innovative and has grown steadily to its present size since its origins in the 1950s. The advanced manufacturing techniques used in the industry typically involve computer-based architectural and structural design linked to automated manufacturing equipment. They have evolved over several decades supported primarily by private R&D effort.

For further background on NASH, please visit the website: www.nash.asn.au .

Relationship to wider steel industry and community

Steel manufacture in Australia comprises many integrated operations from mining and raw steel manufacture to cold rolling and coating and ultimately to rollforming and assembly of added value structural and non-structural products. The steel used for cold-formed steel framing comes predominantly from Australian steel manufacturers with some imported steel components also being used. Cold-formed steel framing performs a vital structural function in the buildings in which it is used. Building frames are typically not maintainable or

replaceable, and consequently the standards to which they are designed, manufactured and constructed are of considerable community importance.

NASH is also an active standards writing organization, co-authoring Structural Performance Requirements for Domestic Steel Framing in 1992. Between 2005 and 2014 NASH prepared and published three residential steel framing standards that are now referenced in the National Construction Code. One of these, the NASH Standard for Steel Framed Construction in Bushfire Areas, was the outcome of a 5 year collaborative project with bushfire scientists at CSIRO Land and Water (formerly Ecosystem Sciences).

NASH in Australia, together with its sister organization in New Zealand, has been instrumental in creating a strong community of expertise in the Australasian region, bringing together public and academic research, software development, equipment manufacture and component supply. The products, systems and expertise available in this region lead the world in cold-formed steel framing for residential construction.

NASH holds biannual 2 day workshops for its members which have covered benchmarking results, marketing, standards, quoting, software etc. These topics were nominated as areas where members believe they could gain the greatest benefits. Last year, following industry feedback, NASH conducted a national technical workshop for engineers which covered the latest technical developments and sought input into future research and development directions. This workshop was run in conjunction with Swinburne University of Technology to enhance the relationship between academia and industry.

Economic dimensions

The annual value of residential building work in Australia is approximately \$62 billion [ABS 8752.0 Sept 2015]. Of this total, approximately 66% or \$41 bn comprises detached and low-rise construction, of the type that can be constructed with cold-formed steel framing. Buildings in this category are constructed either of solid masonry or with steel or timber frames, and the cold-formed steel proportion represents approximately 10%. Therefore around \$4.1 bn is expended on residential buildings that have cold-formed steel frames. Now, the supply value of the frame of a residential building represents around 10% of the constructed value of the building, so we can say that the annual value of the cold-formed steel framing market in Australia is around \$410 million.

Calculated another way, Australia constructs approximately 230,000 dwellings annually of which approx 150,000 are "contestable" by masonry, steel or timber framing. Around 10% are currently steel framed, representing around 15,000 steel frames annually. If the average value of a frame is \$25,000, the market value is \$375 million per annum. Additional product supplied for structural applications in non-residential construction is difficult to estimate but is believed to be of the order of \$100 million giving a total cold-formed steel framing market of \$500 million annually.

Nationally a total construction workforce of around 1.1 million people constructs \$200 billion of work annually. In the cold-formed steel framing industry, this equates to a direct workforce of around 2,500.

Why NASH is submitting comment

It is frequently claimed that in the modern age of global commerce, products may be sourced anywhere to fulfill any specified function. Whilst this is theoretically a correct proposition, the

reality is that steel framing products are not manufactured to the same standards in every part of the world. To be specific, Australia has pioneered the use of cold-formed high strength steels in residential structural framing and is considered to be an international leader in this field. The opportunities for Australia to promote the uptake of this technology in the emerging Asia-Pacific region are considerable and growing. These opportunities would be at risk if Australia were to become simply a customer of the steel supply channels of other international suppliers. This is an entirely probable outcome should steel cease to be manufactured in Australia.

Technology investment

NASH is concerned that Australian technology leadership is gradually being eroded and in some cases has been overtaken by overseas developments as Australia has not been investing sufficiently in its universities, CSIRO and other research institutes. In addition there have been issues in technology transfer between the research institutes and industry. A large component of the steel framing industry consists of small to medium enterprises that generally do not have the time or the expertise to engage with research initiatives offered by the Government.

Industry associations are uniquely positioned to work with their members to implement improvements which lead to more efficient industries that can compete on the world stage. NASH in association with its members successfully competed to win an Industry Cooperative Innovation Program (ICIP) grant in 2006 under which it undertook a benchmarking exercise across its members. This was received very enthusiastically by members with a 60% response rate across the 2 survey phases. Unfortunately the ICIP program was scrapped and there was no funding to move on to the next stage. Most government programs do not allow for industry associations to participate as they require that the lead organization is a tax paying entity whereas most associations are incorporated as not-for-profit organizations.

NASH in partnership with the Swinburne University of Technology and the University of Melbourne has recently completed a project on the lateral behaviour of low-rise steel framed buildings under earthquake and wind including high wind load events such as tropical cyclones. Some of the initial findings of this research have already been incorporated in the NASH Standards and more will be incorporated in the next update. NASH also continues to work with Sydney University and Queensland University of technology on similar projects to improve construction technology.

Issues facing the steel framing industry

Markets

Australia remains a relatively small market for primary and secondary steel products, which compete vigorously with timber, masonry and concrete products. Australia must develop its export potential, especially in Asian markets to the near north. Potential exports include physical product, software systems, development expertise, engineering design, training and skills development. The development of larger markets for Australian products and services will enable continuing investment in the enhancement of the technologies on which the industry relies, including those driving lower manufacturing costs and more efficient use of steel in buildings.

Efficiency

The issue of ongoing investment to maintain and increase manufacturing efficiency also requires consideration. The almost relentless commercial pressure of “low cost” imported products is faced on a daily basis by builders and other steel product customers. The basis of competition in the construction products industry needs to be constantly reviewed and new products and services devised.

Standards infrastructure

Standards developed and adapted for Australian application are generally well regarded in the Asian region. These standards have evolved from an integrated Australian steel industry with significant local production and processing capability, of sufficient scale to support research, development and standards preparation. Any reduction in the present scale of the Australian steel industry would open the real possibility of a collapse of the technical and standards infrastructure supporting leading edge steel framing systems and other added value downstream steel products.

Conclusions

NASH believes the Australian cold-formed steel framing industry has a bright future with appropriate levels of government action in the following areas:

- An improved version of the former ICIP grants program to improve the efficiency of local manufacturers and fabricators to better compete with imports through technology transfer and industry collaboration;
- Expanded ARC Discovery and Linkage programs to increase funds available for research and development in the cold-formed steel framing industry to ensure it maintains its technological advantage;
- Improved product conformity systems to ensure globally sourced products do not compete unfairly;
- Support for the ongoing development of Standards in Australia and their take up in Asia to smooth the path for Australian products and technology, and
- Active support for expanded exports of Australian steel products and associated services.

Please contact me if you require any further information relating to our submission.

Yours sincerely

Ken Watson
Executive Director