



1 October 2013

Attention: Mr Bruce Klein
Senior Advisor Building Standards
Ministry Business, Innovation and Employment
Level 1, 33 Bowen Street
PO Box 6145
WELLINGTON 6145

bruce.klein@mbie.govt.nz
buildingfeedback@mbie.govt.nz

Dear Bruce

**CONSULTATION FEEDBACK – UPDATING STANDARDS: COMMENTS FROM
NEW ZEALAND INSTITUTE OF ARCHITECTS**

1. Thank you for the opportunity for the New Zealand Institute of Architects (NZIA) to meet with you, David Ragg and Jen Nolan on 27 September regarding the proposed changes to the *New Zealand Building Code – Acceptable Solutions and Verification Methods*.
2. We found this meeting helpful to our understanding of the proposed changes and to the key issues for our submission.
3. The Institute would like to congratulate the Ministry on providing an on-line response document in addition to the other response options (i.e. email, post and courier). As the Professional body representing 2,700 Registered architects in New Zealand, all of these options were useful in coordinating comments across the country.
4. Unfortunately we experienced some technical difficulties with the on-line response document. There was no option available to periodically save the responses entered, hence information was lost and needed to be re-entered. We would encourage the Ministry to include a 'save option' in future on-line submission forms.
5. We would also encourage the Ministry to ensure the consultation documents and online submission forms are identical. We had difficulties coordinating comments where members were using different versions to develop their comments. The difficulties we had related to – lack of page numbers, different presentation of proposed changes in the documents and lack of access to existing and/or referenced standards, particularly the European Standards (e.g. EN 115).

6. During our recent meeting, it was helpful to learn about the Ministry's library, which contains all standards referenced in consultation documents. This would be a useful resource for Institute members, particularly where some standards are only used very occasionally. The Institute would welcome further details on how this library resource could be accessed by members on a more regular basis.
7. The proposed transition period of three months over the December/January period is considered problematic for the Institutes' members. We also believe it will affect the suppliers of information and services to the design and construction industry, such as, Masterspec/CIL.
8. Whilst every effort is made to keep architects updated, the proposed three-month transition to update information sources and current project requirements is considered unrealistic, particularly at this time of year. The Institute would encourage the Ministry to lengthen the transition period to at least the end of April 2014 (in response to the challenges over December/January).
9. The Institute would strongly encourage the Ministry to adopt a rigorous and scientifically tested approach as the basis for the development and amendment of code clauses and/or verification methods. The use of the latest science and research will be critical to the robustness of the standards framework and the development of acceptable solutions. As identified in our specific comments (see paragraphs 12-15), where believe there is current scientific commentary and subsequent risks that should be acknowledged by the Ministry.
- 10. Earthquake zones and the identification of liquefaction (Acceptable Solution B1/AS1).** The Institute would encourage the Ministry to consider further advice and guidance on liquefaction risk issues. Given that other parts of the country (e.g. Wellington, Hastings, Gisborne) are at risk of liquefaction, such information should be presented in a standardised format, rather than encouraging additional costs through further engineering advice. Advice on ground conditions is critical to the early work of architects, engineers and Clients.
11. An option for the Ministry to consider is the latest Resource Management Act reforms, that is, standardised District Plans. This would enable liquefaction risks to be identified consistently across New Zealand and for 'natural hazard' provisions to be included within District Plans (i.e. standards clauses, definitions, etc.).
12. **B2: Durability** – The Institute has some reservations concerning the adoption of MCA treated timber for higher hazard classes. Scion referred us to US durability studies which showed some stakes failing in Florida but good inground durability elsewhere. We believe that there needs to be more thorough testing in New Zealand of this treatment including above ground damp situations as we have NZ specific fungus types and conditions and we have seen fillers with several of the timber treatments adopted over the past

few years that have been costly. The costs of repairing consequential damage where the timber treatment has not been as effective at preventing decay as expected is high and often unfairly carried by Contractors and Consultants. We are aware of H3.1 and H1.2 timber treatments that have failed within 10 years. Because of this we would encourage the Ministry to review the standards for accepting new timber treatments.

13. **E3: Internal Moisture** – The Institute does not accept that R 0.25 is adequate as a thermal break to steel roof purlins. This is only a slightly higher value than the minimum previously accepted as a thermal break (20mm wood fibre board s R 0.20) for light steel wall framing.

The condensation and thermal bridging risks in roof assemblies are quite different from what occurs in walls.

Firstly the weight of steel used for studs is typically half that used for purlins and so the cost effectiveness of thermal break material at conserving heat will be higher for purlins; secondly the insulation in roofs is commonly between the purlins and has a much higher R-value, therefore the loss in performance is relatively higher. For potential condensation, mineral fibre ceilings, and batt insulation allow humid air from inside the building to move freely into the roof cavity where it can condense on the purlins leading to early failure.

While a more comprehensive approach to dealing with internal moisture needs to be adopted as the acceptable solution for roofs, increasing the R-value for the thermal break to a value that will make the purlins much closer to the internal temperature will help. We suggest that a value of at least R0.5 is adopted in this revision round and that a more comprehensive revision including drawings of acceptable roof details is proposed as soon as practicable. Members of the Institute have been undertaking work with schools and could assist with this work.

14. **G8: Artificial Light** - While the Institute has not reviewed overseas standards in detail, we believe that NZS 6703: 1984 is too simplistic and does not address recent research. The types of tasks being undertaken, the age range of the users of a space and different lighting strategies to put light where it is needed rather than uniformly distributed need to be considered. User performance can be improved, strain reduced and energy use optimized by a better approach. Members of the Institute have recently evaluated several buildings that meet NZS 6703 but which fail to provide adequate lighting for the tasks being undertaken. How does NZS 6703 compare with AS/NZS 1680.1? Why have we not adopted what we could to assist with this?

15. **G10: Piped Services and G14: Industrial Liquid Waste** - Both these clauses have been updated to include reference to NZS4219:2009 Seismic Performance of engineering systems in buildings. This document seems a bit light on practical solutions to many of the seismic performance requirements. The American FEMA documents: FEMA-74 and FEMA-454 Chapter 9 have good practicable solutions and specific advice on non-structural seismic design problems and are freely available. While many of these solutions have already being widely used in New Zealand there are many that are not, particularly with services installations. If these could be included within our Acceptable Solutions (and more than just these two) then we could perhaps achieve better seismic performance for these items.

It should be noted that the Institute in partnership with IPENZ, NZRAB, SESOC and NZSEE and MBIE have been working on a Practice Note on Architect/Engineer Collaboration. This work has identified and referenced the FEMA documents as a relevant source.


16. Ongoing review of Building Code Standards and Verification Methods.

The Institute would welcome the opportunity to support the Ministry's efforts to continually review the building code standards. We could assist by providing a small review group to work alongside the Ministry and identify priorities for the review programme.

17. Please find attached our responses to the consultation document. If we can be of further assistance, please let me know.

18. The Institute would welcome the opportunity to work more closely with the Ministry on further reviews of the New Zealand Building Standards.

Yours sincerely



Teena Hale Pennington
Chief Executive

Attached: NZIA submission - building standards review
cc. *Adrian Regnault, General Manager Building System Performance*