



New Zealand Concrete Society
Secretary/Manager: Allan Bluett
PO Box 12, Beachlands
Auckland, New Zealand

Phone: +64 9 536 5410
Fax: +64 9 536 5442

Email: concrete@bluepacificevents.com
Website: www.concretesociety.org.nz

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Submission by the New Zealand Concrete Society to the Canterbury Earthquakes Royal Commission

This submission is made in response to the document: 'Discussion paper: Roles and Responsibilities', GEN.CERC.0005.

Preamble:

In an earlier submission in response to the discussion paper GEN.CERC.0003, details were presented regarding the goals and general activities of the New Zealand Concrete Society (NZCS) and the activities undertaken by NZCS in response to the Canterbury earthquakes. Hence that information is not repeated herein.

With respect to the key matters for consideration as identified in section 1.1 of the discussion paper, this NZCS submission is primarily focussed on 'how standards are developed and how they are given legal effect'. MBIE recently called for submissions on a parallel topic pertaining to standards development, and in order to ensure consistency the NZCS submission to MBIE is contained herein as Appendix A.

Response to questions page 12: Efficacy of building regulator framework

Q1-2, 4-7. No response

Q3. 'What are your views on the model proposed by IPENZ?

With respect to the IPENZ model identified on page 9 of the discussion document and containing 3 bullet points, NZCS is in support of this model. The principal focus of section 3.1.1 of the discussion paper is associated with the development of a National Policy Statement, which aligns with IPENZ bullet point 1. NZCS have no particular views on this matter, other than that this may be a necessity, or beneficial, to the achievement of IPENZ bullet points 2 and 3 as elaborated on below.

With respect to IPENZ bullet point 2, NZCS support full or partial Government funding mechanisms for standards development. However, it is noted that the Building Levy is associated with the New Zealand construction industry, whereas New Zealand standards address a broader range of topics than specifically related to the New Zealand construction

industry¹. Hence it would seem inappropriate for the Building Levy to be used for the development of New Zealand standards not related to the New Zealand construction industry. This comment is offered with NZCS being unaware of the weighted distribution of industry sectors that New Zealand standards address, or the comparative costs of developing standards for these different sectors. Perhaps a case can be made that the development of standards for the New Zealand construction industry dominates the activities of Standards New Zealand to such an extent that the use of the Building Levy to fund the development of all New Zealand standards is justifiable, but NZCS is not aware of any such analysis.

With respect to IPENZ bullet point 3, NZCS consider themselves to be a learned society that has amongst its activities the authoring and dissemination of guidance documents for the New Zealand concrete industry. NZCS would welcome the establishment of agreed protocols for endorsed advisory documents, and would anticipate that such a process would assist in clarifying any confusion that currently exists about the legislated status of NZCS guidance documents. NZCS would note that such protocols would need to avoid aspects of compliance that were so demanding or restrictive that any normal non-profit learned society was unable to deploy the extent of resources necessary to complete such endorsed advisory documents.

Response to questions page 13: Standards development

Q1: Weaknesses of the building regulatory framework? NZCS identify two failures of the current building regulatory framework, whilst recognising that these issues may already be a focus of MBIE deliberations after its recent establishment.

The first failure is associated with the resourcing of Standards New Zealand. NZCS contend that the application of a commercial financial model for standards development is fundamentally inappropriate, at least for the development of standards related to the New Zealand construction industry. As one illustration of this point, the reality has been that in past times tertiary institution academics have been key contributors to all of the most influential New Zealand loadings and material design standards. Frequently these individuals have had to find their own funding to attend meetings, have received no or little recognition or remuneration from their employer for their efforts, and have undertaken the majority of the activity outside of working hours. Furthermore, neither these individuals nor their employers have received any financial benefit from such activity. The same comments equally apply to other contributors, such that much of the standards development process is undertaken by conscientious volunteers. The reality is that this development mechanism is unsustainable and also discourages expeditious standards development as volunteers must defer their development work whilst attending to core business.

The second failure of the current building regulatory framework is that despite DBH² representation on the committee tasked with standards development, there is a history of the DBH subsequently being slow to cite a revised standard as part of the Building Code. This delay has resulted in out-dated documents continuing to be legally binding, whilst superior documents were not able to be legally used, on occasion for several years. NZCS would

¹ Consider for example AS/NZS 2596: 2003 'Seat belt assemblies for motor vehicles'.

² It is recognised that the former DBH is now part of MBIE

contend that such delays are difficult to justify, and that any potential issues associated with citing in the Building Code should be addressed in parallel as the standard is being developed, such that the published updated standard is almost immediately cited by the Building Code.

Q2. What is the best way to provide compliance guidance? NZCS supports New Zealand Standards being the main or only method of compliance, and supports Standards New Zealand being the entity responsible for this exercise. A detailed justification for this support is provided in Appendix A. It is noted that this general mechanism is found in many countries worldwide, and that the process is internationally recognised to be sensible.

Q3. What guidance should be given? NZCS is not aware of the reasons for why past compliance methods have been slow to be incorporated into the Building Code and would suggest that representatives of the former DBH would be able to provide clarification pertaining to this question.

Response to questions on page 19: Responsibilities

Q1. No response

Q2. NZCS support Standards New Zealand as the entity responsible for administering work programmes needed for the development of building related standards. In the context of the New Zealand concrete industry, the development exercise has typically been led by the chair of the standards committee, with representatives of the committee identifying priority areas for implementing of new knowledge or undertaking of research to obtain new knowledge. As discussed previously, NZCS consider national standards to be documents of public good, and support partial or full Government funding for the development of New Zealand standards.

Response to questions on page 21: Capability

No response

Response to questions on page 22: resourcing standards development

Q1. The role of Standards New Zealand, and how should it be funded? As discussed previously and elaborated on in Appendix A, NZCS support Standards New Zealand as the principal entity responsible for the development and distribution of national standards. NZCS does not support the notion that standards principally serve commercial interests, and does support the notion that standards support a regulatory and public good outcome. NZCS supports partial or full government funding of Standards New Zealand to undertake this role.

Q2. Advantages and disadvantages of relying on Standards New Zealand? This matter is addressed in detail in Appendix A.

Q3. Should primary reliance continue to be made on volunteers? As discussed earlier and elaborated on in Appendix A, NZCS consider the continued use of volunteers to be unsustainable and a failure of the current building regulatory framework.

Q4. What funding might be available? As discussed earlier, NZCS support partial of full Government funding of Standards New Zealand as a sensible funding mechanism that recognises the regulatory and public good function of New Zealand standards.

Q5. Should there be more or less use of mechanisms other than standards to develop methodologies for compliance? NZCS support the notion of Standards New Zealand being the sole entity responsible for developing and providing methodologies for compliance, but equally supports IPENZ bullet 3 regarding agreed protocols for endorsed advisory documents.

Response to questions on page 25: Obtaining regulatory approval for building work

No response

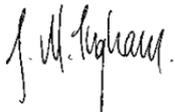
Response to questions on page 27: Quality assurance

No response

Conclusion

The New Zealand Concrete Society acknowledges the significance of the Canterbury earthquakes and the important role of the Canterbury Earthquake Royal Commission to assist in identifying opportunities for improvements on technical matters relevant to NZCS. In this submission we have sought to outline the views of NZCS as they pertain to the development of New Zealand standards and other guidance documents relevant to the New Zealand concrete industry.

Yours Sincerely,



Jason Ingham

President of the New Zealand Concrete Society

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New Zealand Concrete Society
Secretary/Manager: Allan Bluett
PO Box 12, Beachlands
Auckland, New Zealand

Phone: +64 9 536 5410
Fax: +64 9 536 5442

Email: concrete@bluepacificevents.com
Website: www.concretesociety.org.nz

31 July 2012

Submission by the New Zealand Concrete Society to the 2012 Standards and Conformance Infrastructure Review

This submission is made in response to the document: '2012 Standards and Conformance Infrastructure Review', accessed at: <http://www.med.govt.nz/business/standards-conformance/pdf-docs-library/2012-standards-conformance-infrastructure-review.pdf>

Preamble:

The New Zealand Concrete Society (NZCS) is a non-profit organisation whose membership is composed of professionals involved with all aspects of concrete construction in New Zealand, including the manufacture of concrete and related materials, the design and construction of concrete infrastructure, and the maintenance and remediation of concrete infrastructure.

NZCS aims to encapsulate the expertise of its membership and to output this expertise in the form of seminars, technical publications and conferences for the betterment of the concrete and construction industry at large. NZCS is a learned Society with a focus on technical excellence and is not influenced by any external commercial interests. One of the objects of the Society is to participate in the development of appropriate standards, codes of practice and specifications.

A number of NZCS members participate in the national standards development process through chairing or being members of standards committees. This work entails the amendment or complete revision of national standards, and the work is often performed on a volunteer basis or funded by the member's employer.

How national standards are being used in the concrete sector

NZCS is of the view that national standards are an essential element related to all aspects of the concrete construction industry in New Zealand. These standards provide acceptable solutions and verification methods to the NZ Building Code, and therefore are used in specifications for design and construction practice, and the manufacture, supply and testing of products and materials used in the concrete construction industry. Also, national standards are used to accept/reject products and services, and as a basis for payment.

Because New Zealand national standards also represent codes of best practice, specifiers tend to rely on these documents for technical detail. Thus specifiers often simply quote

compliance with particular standards as the means of achieving and demonstrating the required quality, with little regard to whether the standards that they are quoting are relevant, contain all the information required, are current, or are up to date. Hence national standards are used in New Zealand with a lot of faith, and with relatively little thought. The advantages of this apparently lazy approach are described below.

The most valuable aspects of the national standards development process

The process whereby input to standards development is sought from a wide range of interested organisations means that everyone in the wider concrete and construction industries has an opportunity to contribute, thereby ensuring that all relevant aspects are considered. The high levels of technical expertise, coupled with strong professional relationships and common strategic goals within the concrete construction industry, results in the existing national standards development process working well and leads to the production of good technical outcomes for the New Zealand concrete construction industry.

Committees involved with concrete-related standards tend to have a relatively large membership representing a wide range of interests and expertise. Participants in this process may include: regulators, suppliers, practitioners and consumers. The consensus process by which national standards are developed and updated, taking into account the fundamental science behind the technology, recent research, and practical experience of people involved with the products/services on a daily basis, provides confidence that national standards address all relevant aspects of technology in the most appropriate way for New Zealand.

It is the opinion of the NZCS that vested interests in the national standards development process have been successfully managed by an overriding emphasis on technical and practical considerations and a focus on strategic needs for the concrete industry and the New Zealand construction industry in general. This collegial approach may be easier to achieve in New Zealand, which is regulated by one authority, than in countries such as Australia where different state authorities may have different and conflicting compliance requirements.

Technical experts tend to retain personal networks with the wider concrete community in New Zealand and overseas throughout their careers, which means that the members of any given national standards committee can usually contact people involved in earlier or related committees for clarification of detail or to obtain further information. The strong professional network in the concrete industry means that matters relating to standards development and amendment are often discussed as they arise, and are earmarked for attention at the next review of the relevant national standard irrespective of whether a relevant standards committee is active at the time. Thus New Zealand's concrete sector effectively has permanent 'informal standing committees'.

Because national standards are developed in New Zealand for use in New Zealand, these documents take into account the needs of New Zealand consumers and industry for an acceptable quality of service at an affordable cost.

The comprehensive ('code of best practice') nature of many standards means that specifiers can concentrate on meeting the specific needs of their clients, projects and business, rather than focussing on technical details that may be outside their specific areas of expertise.

The comprehensive nature of many standards generates a level playing field, where a minimum acceptable level of quality is guaranteed irrespective of the technical capabilities of individual suppliers/specifiers.

The current national standards development process removes liability from individuals and businesses who contribute expertise. This process removes a major barrier to participation of individuals and their employers, allows contributors to table ideas that might otherwise not be considered, and thereby enables national standards to take the role of 'codes of best practice' in addition to their compliance role.

If national standards were to simply become compliance documents without technical detail, guidance or commentaries, then the process of developing these documents may be streamlined, but other documents describing best practice would be needed to support them. Such 'best practice' documents are unlikely to attract the 'critical mass' of contributors needed to provide technical rigour, and therefore would be more likely to be inaccurate or incomplete. In addition, the need for authors and publishers to avoid liability may result in best practice documents adopting an 'all care, no responsibility' approach, with general guidance provided rather than technical detail. In addition, different industry organisations would be more likely to publish their own guidance documents on the same topics, involving extra effort for little benefit to potential users.

The staff at Standards NZ provide timely and professional services of high quality to committees. Their knowledge and experience in producing standards enables technical experts to focus their attention on their own areas of expertise, thus saving the concrete industry time and money, and ensuring that the standards themselves meet appropriate criteria.

The extent to which the concrete sector uses international and/or trans-Tasman standards, and the extent to which the concrete sector needs specific NZ standards

NZCS members use Australian (AS) or international standards when no NZ or AS/NZS standard is available to cover the topics they need, or when they want background information to help interpret test results or design a test programme. Typically NZCS members use AS standards in preference to other international standards because they can readily procure related services, such as testing or design expertise, and because they know whom to ask if they need clarification on a particular aspect. NZCS members use international standards when no NZS, AS/NZS, or AS standard is available.

Specific NZ standards are needed when products, materials, conditions or processes in New Zealand differ from overseas equivalents to such an extent that using another standard directly would be technically inappropriate, impractical, uneconomical, or otherwise not achieve the required quality at an affordable cost. Specific NZ standards can also directly address NZ legislative requirements.

An advantage of requiring a product to conform to one particular standard is that local laboratories can offer the tests required as a routine service. It is not economical for testing laboratories to offer several alternative methods of measuring the same properties. Therefore if acceptance of the product is based on compliance with any one of several standards, then importers, suppliers, and purchasers will find it more difficult and expensive to procure independent testing services.

Joint AS/NZS standards are appropriate where most clauses can apply to both countries and few or no country-specific clauses are needed. Joint standards have the benefit of input from a wider range of expertise as well as lower costs for the New Zealand concrete and construction industry. The disadvantage of joint AS/NZS standards is that NZ has relatively little influence on a committee comprised mainly of Australians. Consequently, joint AS/NZS standards are appropriate where the same principles and most of the details of requirements apply in both countries.

However, differences in appropriate technical detail frequently result in too many country-specific clauses being needed in a joint AS/NZS standard, such that a single joint standard is impractical. In such cases, Australian and New Zealand industries may take an informal co-operative approach. The current arrangement between Standards NZ and Standards Australia whereby committees from each country may collaborate, inform each other of progress on projects, exchange ideas, or co-ordinate the development of corresponding AS and NZS documents, offers New Zealand the same advantages as a joint standard while enabling local standards to address local needs.

Understanding the overall content of a standard from another country is easier than writing a New Zealand national standard from scratch. The disadvantages of New Zealand adapting standards that were originally published outside of New Zealand are the need for a partnership arrangement between publishers, and the difficulty of being able to adapt such 'harmonised' standards to keep abreast of changes in their counterpart documents.

Overall, non-NZ standards and codes of practice are often useful for their philosophical content, but may lack the local detail and context needed for technical and regulatory completeness.

Issues faced in developing and using national standards

The updating of national standards can take a long time, typically being 1-2 years after the project commences. Also, the process of updating a national standard is expensive, even with committee membership being on a voluntary basis. Some of this cost is direct and highly visible, such as Standards NZ fees and sponsorship costs. However, the unseen indirect costs to businesses and individuals participating in standards committees are generally not taken into account, and overall are probably much higher than the direct costs. Furthermore, identifying and debating all the aspects that need to be considered when developing or reviewing/updating a national standard involves a lot of time. Because of the three reasons listed above (i.e. time, cost and complexity), standards are not reviewed and updated as often as they should be.

The former model, whereby institutions such as research providers, government agencies and private industry considered contributing their expertise to standards development as part

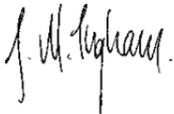
of their role as technical leaders in New Zealand society, no longer applies in the current economic environment. Instead, employers may see the contribution of expertise to standards by their employees as a professional development activity rather than being part of core business, and employees may give low priority to the standards development process if the activity competes with other training or professional development opportunities. These factors can limit the pool of potential committee members to those from organisations who have a vested interest (e.g. manufacturers or regulators) and individuals who are willing to donate their own time to developing a standard.

If participation on standards committees was at least partly government funded, and research funders gave equal emphasis to the uptake of research findings in standards as they do to other implementation pathways, then some of the barriers to prompt and frequent updating may be reduced.

Acknowledgement

This submission has been prepared following discussions amongst the Council of the New Zealand Concrete Society, with specific input provided by Dene Cook, who has extensive experience in the development of national standards for the New Zealand concrete industry, and Sue Freitag, who has represented NZCS on several standards committees recently.

Yours Sincerely,



Jason Ingham

President of the New Zealand Concrete Society