

Royal Commission of Inquiry into Building Failure Caused by the Canterbury Earthquakes

Standards Council – Submission on Discussion Paper: Roles and Responsibilities

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1. Submission from the Standards Council

The Standards Council ('the Council') expressed an interest in contributing information to the Canterbury Earthquakes Royal Commission ('Royal Commission').

The Council has previously provided the following to the Royal Commission:

- Submission 1 on 14 October 2011, describing its roles and functions (ENG.STA.0005A.SUB and ENG.STA.0005B.SUB).
- Submission 2 on 13 March 2012, relating to new building technologies (ENG.STA.0009A).

This is the Council's third submission and relates to the Royal Commission discussion paper *Roles and responsibilities*.

2. Context

The Council considers itself an integral part of the infrastructure supporting the regulatory framework underpinning the building and construction sector.

As stated in its first submission, the Council is New Zealand's peak Standards body and a part of the building regulatory system. As the Royal Commission notes, there are several hundred New Zealand Standards incorporated by reference into the compliance documents and handbook of the New Zealand Building Code (Appendix A). There are also many more Standards used in a voluntary basis, or to support the infrastructure as test methods or as product specifications.

As advised in our first submission, the Council has provided New Zealand Standards for building and construction since 1932, following the Napier earthquake. The Council has quality management systems in place and is certified to AS/NZS ISO 9001:2008 *Quality management systems – Requirements*. New Zealand is a signatory to the World Trade Office agreement on technical barriers to trade, and the Council's development processes have incorporated the recommended practices for Standardisation set out in this agreement (1995).

The Council enables New Zealand to draw on international research and intellectual property through the network of the national standards bodies from around the world when developing domestic Standards and setting requirements.

Feedback we have received from stakeholders is that New Zealanders have come to depend on New Zealand Standards as a means to bring experts together, build agreement on requirements drawn off the best information and evidence available at that time, and diffuse this knowledge.

The Council notes that since its earlier submissions to the Royal Commission the monitoring agency for the Council, Ministry of Business, Innovation, and Employment (MBIE), have commenced a review of New Zealand's Standards and conformance infrastructure, with a specific focus on the Standards setting process.

We emphasise that this submission expresses in-depth knowledge about standardisation and the expert view of the Standards Council as New Zealand's national standards body. It is prepared for the purpose of the Royal Commission and its terms of reference, and is not intended as policy advice (which is the responsibility of the MBIE).

3. Issues with the current regulatory framework (Section 3)

Clause 3.1.3 (Page 12) *Efficacy of building regulatory framework*

1. *Are there problems with the existing building regulatory framework, identified through the experience of the Canterbury earthquakes? If so, what is the effect of these problems and are they sufficiently significant to require regulatory action?*

Standards are a core component of the framework, and feedback from our stakeholders and experts appointed to committees advises us that these gaps still exist.

Specifically, the Council agrees with the performance-based regulatory approach. For building and construction, the accepted best current thinking and approach adopted by New Zealand is the Inter-Jurisdictional Regulatory Collaboration Committee (IRCC) performance-based regulatory model based on the trade agreement known as the Nordic system (Appendix B).

The regulator has developed an interpretation of this IRCC model for New Zealand conditions, and the Council considers there to be gaps in it. Examples of gaps are given in Appendix C.

The Council considers gaps to include:

- insufficient monitoring and review mechanisms to assess the effectiveness of policies and regulatory instrument interventions. The Royal Commission hearings have shown that risk decisions about the current loading design levels for earthquakes and the levels of performance for existing building stock have not been reviewed. These decisions reflect positions about New Zealand's tolerance and acceptance of risk, and should be monitored and reviewed on a regular basis.
- an incomplete regulatory hierarchy such as functional requirements and criteria that would enable demonstrating compliance through the alternative solution pathway more viable.
- the absence of adequate resourcing of regulatory components. In relation to Standards as one example of a regulatory component, this prevents:
 - the regular and necessary review of Standards.
 - unobstructed access to requirements or useful content contained in Standards.
 - less dependence on volunteers to develop Standards.

Adjustments have continued to be made to the building legislation since 1991, with problems highlighted through various reports, articles and submissions. The Council also considers there are aspects related to the implementation of the performance-based building model in New Zealand that need addressing.

Since 1991, gaps continue to be identified in the building regulatory system. The Council attributes much of this to a lack of clarity and alignment with the founding IRCC model (IRCC 2010). This has led to gaps being created where detail is not given by the regulatory system, such as a lack of detail describing performances or risk criteria (measures). Appendix B shows the base IRCC framework and a model example. The current regulatory framework for New Zealand is then given, along with an example with the structural requirements and provisions. As these diagrams show, there appears to be missing layers and a lack of clarity about where the information relating to tiers 4, 5, and 6 are given.

The Council has consistently received feedback from experts involved in Standards committees about the gaps in the system. For example, there have been discussions on the requirements to protect amenity as well as life safety; the inconsistency between the requirements for upgrading existing buildings versus constructing new buildings, and protection of historical structures versus life safety; and the inconsistency between resource management objectives and Building Act requirements. There has also been disagreement about the quantity of supporting information to accompany the requirements in Standards, also called commentary clauses.

An architectural specialist, the late Roger Hay, in an article published by *Gauntlet* magazine in 2010 asserts that the achievement of a performance-based approach is compromised by its implementation. That is, the lack of clear performance criteria and subsequent risk apportionment to building consent authorities now constrains innovation and there are no clear paths for demonstrating compliance through an alternative solution:

‘Under the Building Act 2004 the practical effect, today, is that DBH’s published set of ‘Acceptable Solutions’ are regarded by most Local Government building officers as quasi-regulatory, while ‘Alternative Solutions’ are too often seen as potentially unsound ideas to be handled with extreme caution. The overall result is that our professional designers are now far more rigidly restricted than before 1990...’

Hay, R. ‘Rotten Buildings: An analysis of government failures. Part 2’ *Gauntlet*, no.3 (2010):9 – 16

The effective implementation of this framework into New Zealand requires further review and adjustment, as it has led to a costly and inefficient system. The current Building Act Review, which commenced in 2009, stated the DBH’s intention in Paper 1, para 43:

‘In addition, the Department will do further work in a number of areas.

....Develop protocols and guidance to improve the interface between the building regulatory system and the New Zealand Standards system.’

The Council led the development of a memorandum of understanding (MOU) between the DBH and Standards New Zealand for the period of 1 July 2008 – 30 June 2011. This MOU identified 20 building Standards projects that were the immediate priority, and a funding arrangement of no less than \$600,000 per year from DBH was to be made available to support the work programme.

During this period, the Council secured and completed project work valued at \$333k, \$232k, and \$211k for 2008, 2009, and 2010.

As described in the 2008 briefing for the incoming Minister for Building and Construction, 'a significant backlog of work to amend, revise or develop new Standards identified and prioritised by the sector continues to grow' (DBH, 2008).

A business case was to be developed by DBH with options for improving the integration and presentation of the information contained in various documents, including New Zealand Standards that make up the Building Code system, so that it can be better accessed, or sorted, according to the building type location and/or the different parties involved in the building process. This business case was to be reported to Cabinet by the end of March 2011. The Council is not aware of any further progress on this aspect, but notes that this framework gap has been known for many years. The long standing nature of this issue is highlighted in a document, known as the Angus report, on the interface between the Building Industry Authority, BRANZ, and the Council (Appendix D).

Since the Royal Commission Interim Report and as advised through our second submission, the Council has solicited feedback on research associated with a number of structural design Standards, but without funding, work on these projects has not commenced. Without stronger sector leadership of the regulatory system, Standards project activity is still being considered on a case-by-case basis.

The existing Building Act 2004 contains a number of mechanisms to enable continuous improvement such as statutory reporting. The Council considers that more effective discussion is needed with the sector about whether regulatory action is needed, and what the appropriate action should be. The Council should be an active participant in those discussions.

2. *What potential solutions might address the issues (e.g. a 'national policy statement') and how might these work in practice? What would the benefits be? What might the disadvantages be?*

The Council considers stronger sector leadership, better alignment with the IRCC base Nordic model, clarity on the decision process for making adjustments to the regulatory system, and effective resourcing of the components in the system would resolve a significant number of issues.

The Council considers there would be significant benefit in better integration and alignment of the research community, standardisation community and those stakeholders implementing change, and educating stakeholders. Monitoring and feedback would then enable more informed policy decisions, and continuous improvements of the tools such as Standards, practice notes, and guidance material.

The Council considers the IRCC model as best current thinking. This internationally proven model allows the determination of the appropriate players to make critical system-impacting decisions. Each decision has a risk profile, and it is important that each are then considered using the appropriate methodology and protocols.

For example, the Council notes the DBH swiftly and appropriately used the emergency powers of the Building Act 2004 (section 175) to make changes to the seismic zoning of the Canterbury area, which included the requirement for reinforcement of residential slab on grade for building structure designs utilising the light timber-framed design Standard (NZS 3604:2011 *Timber-framed buildings Standard*) and similar masonry construction design Standard (NZS 4229:1999 *Concrete masonry buildings not requiring specific engineering design*).

However, from 1 August 2011, through amendment 11 to the B1 compliance documents, these changes were extended to the rest of the country using the emergency provisions. The specified reinforcing material was not one readily available and supplied by the New Zealand market, potentially affecting costs of new residential buildings, and causing practical limitations to the roll out of these changes by the Department.

The Council considers that this is an example of where it is not clear why the selected methodology and protocols were chosen by DBH to make this change to the regulatory system, rather than updates to the Standards. This approach also results in users needing to consider both the compliance document and relevant Standard, and then reconcile the clauses to identify the requirements.

3. *What are your views on the model proposed by IPENZ?*

The Council supports the model proposed by IPENZ.

The Council agrees with the recommendations by IPENZ given in clause 6.4 of its submission (ENG.IPENZ.0003.SUB) and the opportunity to draw off international best practice. The Council sees its own networks into the international Standards community as a readily available means to achieve this.

The Council also agrees with the recommendations given in clause 6.7 of the IPENZ submission (ENG.IPENZ.0003.SUB) about the need for clear ownership and development protocols, including New Zealand Standards where mandated policy has been made. We also acknowledge the need to resource the components of the regulatory system effectively. This would be consistent with the Council's experience in other sectors (see the Electrical sector case study in Appendix E). As IPENZ states, many construction-related Standards have a significant public good component. This makes the case for at least partial public funding compelling.

4. *Has the Building Amendment Act 2012 gone far enough? If not, what changes are still needed and why?*

In 2009, the Council welcomed the terms of reference for the Building Amendment Act review. This identified a need to develop protocols and guidance to improve

the interface between the building regulatory system and the system for Standards setting. Initial consultation on the Building Amendment Act 2004 review indicated a need to consider the Standards Council and DBH interface including improvements to accessibility of information.

In its Briefing for the Minister for Building and Construction (2008) DBH stated:

The Department is increasing its capacity to provide advice on emerging issues and trends that are likely to impact on, or are critical to, the performance of the housing and building sector in New Zealand. This includes factors such as demographics, land supply, affordability, productivity and international trends, so that informed decisions can be taken by government, local government, the Department and the broader sector. This will enable the Department to deepen its understanding of the sector and its key performance drivers, and in measuring for outcomes.

While Standards are made available through the public library system, the necessity to pay for private copies has been signalled by our customers as a barrier to their uptake and usage. The Council's position is that open electronic access to the Standards could be achieved by implementing a funding mechanism for their development, maintenance, and access. Most construction-related Standards contain some public good aspects, so it is fair and reasonable to consider that partial public funding should be made available to enable public access, even if in a limited form.

The Council considers that, as stated earlier in this submission, remaining Building Act implementation issues also need to be addressed. These issues include clarity on where regulatory instruments, including Standards, are used and to what effect, resourcing of the components of the regulatory system, and sector leadership to coordinate the various roles and responsibilities in the system.

5. *What problems are there, if any, with the level of understanding of the building regulatory framework held by participants in the building sector?*

The Council considers a need to improve the consistency in the level of understanding about the building regulatory framework across the building sector. This is both in the performance nature of the system, the status of some documents within the system, and the mechanisms needed for making changes to documents in the regulatory system. The Council would welcome being actively involved in further definition of the problems in this area.

Through the Council's enquiry service, queries are regularly received that indicate an ongoing and significant amount of confusion and unawareness still exists about the regulatory system and its various components.

As highlighted in the Council's second submission, there is a lack of clarity on why some pathways are used by the regulator for some building and design compliance solutions, or what the Council calls 'intervention logic'. As Rob Jury, Technical

Director for structural engineering at Beca, stated during the Research and New Technology hearing:

‘...So it’s not very well defined exactly what the performance objective is, and so I think that certainly needs to be sorted in my view because not only is it a problem for the profession, it’s a problem for the standards writers. They are working in a vacuum of deciding what is the performance objectives they’re trying to meet when they’re writing the standards and in, in discussions around standard committee tables even within the standards committees there’s a huge variation of understanding about what the intent is.’

Research and new technology hearing transcript [TRANS.20120314.116]

There are many terms used by those involved in the building regulatory system which naturally add to the confusion. For example, the term ‘best practice’ results in confusion about whether Standards are used to set minimum requirements or better-than-code requirements. Clarification of terminology is therefore an important issue.

In all circumstances, Standards should be developed drawing on the best information available, with a wide range of expert input, and be supported by a strong research and evidence base. This is so, irrespective of whether the Standard is destined to be used in a minimum or better-than-code context; and particularly if the Standard is destined for regulatory use.

Clarity is also needed on the performance level and risk criteria (IRCC Tier 5) as they apply to the structural provisions of the New Zealand Building Code. In the absence of clear policy, Standards have had to fill this void. This was evident during the development of the AS/NZS 1170 loading Standard series where the Standards writers had to apply judgements on the appropriate earthquake design level, what buildings might be considered needing higher levels protection, and over what time period this performance should be expected.

The Council also considers that there should be a further review of the regulatory system against the IRCC model, to ensure that all tiers and expected functions are adequately covered. National policy statements, as described by the IPENZ submission, could be used to address gaps should alignment with the IRCC tiers not be achieved in its entirety (ENG.IPENZ.0003.SUB).

6. *What would help improve understanding of the building regulatory framework (if needed), and how should this be done? How would any costs be funded?*

The Council considers that the general understanding of the building regulatory framework would be greatly improved through a combination of the following measures:

- Integrated access to the documents that set the New Zealand Building Code requirements, documents providing means of compliance, and guidance material. Integrated access would enable the document status and role in the system to be provided to users in an authoritative manner.

- Additional education through the building licensing scheme for all practitioners involved in building work.
- Clarity about the risk decisions made when developing compliance paths for various materials and design solutions. That is, explicitly stating how materials and design solutions are considered for inclusion in the acceptable solutions and verification methods, and what considerations were taken to reach that decision.

In relation to the first point, the Council agrees with IPENZ that mixed funding model solutions may address the first aspect to some extent. The latter two points relate to a sector leadership role, which could be funded through the Building Levy.

7. *Do the Building Act and the Resource Management Act work effectively together to ensure an efficient consenting process, while balancing any appropriate competing objectives? If not, how can this be improved?*

The Council's view is that the Building Act and Resource Management Act are not working together in a coherent fashion to enable an effective and efficient consenting process. The Council considers these Acts have conflicting national objectives that manifest as confusion for practitioners at the implementation stage.

These conflicting objectives also affect the development of our Standards, as is frequently raised by our committees. The conflicts include a focus on life safety versus protection of amenity, and extend into concerns about affordability against historical preservation. Further, there are jurisdictional inconsistencies with the infrastructure and ground preparation design levels versus building design levels. These inconsistencies prevent systematic resilience for communities where parts of the system have different goals and objectives.

In October 2006 the IRCC held a workshop in San Francisco on the use of risk concepts in regulation. The outcomes were that three primary approaches should be used:

- The use of risk-informed decisions about what to regulate or what aspects of existing regulations to emphasise in enforcement.
- A focus on risk management through regulation by quantifying hazards, impacts and uncertainties as a basis for deciding about regulatory actions and Standards. That is, using risk based concepts, this can assist with determining what intervention instrument should be used.
- Establishing 'tolerable' levels of risk, acceptable risk or other risk-related Standards.

The Council considers this to be the best current thinking for risk-based concepts in performance-based regulation.

The Council considers that the use of risk-based concepts can assist in determining if regulatory intervention is required, what regulatory instrument is appropriate, and what implications could be expected by the risk-based decisions.

The Council has worked with the environmental sector and seen a number of examples where risk based decisions have been made to guide the purpose of the

Standard or regulatory tool being developed. For example the systems based flood risk Standard (NZS 9401:2008 *Managing flood risk – A process Standard*) assists local authorities to develop consistency in their approach, but not necessarily their levels of risk from floods. A number of acoustic Standards are based on agreed systematic approaches to assist noise generators to make risk-based decisions for their designs and maintenance of wind farms, roads, ports, and airports.

Finally, a number of model bylaws Standards provide local Government with tools to promote consistency and ensure key aspects are considered as regional bylaws are developed by local authorities.

Clause 3.1.4 (Page 13) Standards development

1. *What, if any, are the weaknesses, (e.g. omissions, failures, impediments) in the current building regulatory framework in relation to the process for developing requirements for design and performance of buildings for or in earthquakes?*

The Council considers there are gaps in the current regulatory system, including the selection and design of regulatory interventions for earthquake design for buildings.

These gaps include the following:

Sector leadership and coordination

Currently research, standardisation, development of guidance material, delivery of education, and the implementation of requirements are considered as isolated events and projects.

The Council considers there is value, as described in our second submission, in coordinating these activities to ensure better time and cost efficiency of resources, and delivery of integrated solutions. This would also enable monitoring of system changes, and feedback to the research, policy, standardisation and education programmes with learnings and improvements.

The Council has initiated workshops since the release of the Royal Commission Interim Report and identified a number of aspects that could be standardised. Several of these aspects require further research. Better sector-wide coordination of this would also ensure resources are able to be prioritised and deployed effectively and efficiently.

Understanding outcomes (Intervention logic)

The Council considers that clarity is needed when selecting options selection and developing rationales for adjusting to the regulatory system. This will ensure component documents such as Standards can be developed that are fit for purpose. Such an approach will facilitate better risk assessment of options and solution selection. It will also enable more clarity when reviewing the effectiveness of adjustments made to the regulatory system over time.

Resourcing of regulatory system components

The Council considers that the current policy settings and funding arrangements prevent the Council from carrying out necessary and regular review of Standards documents, and providing open access to their content.

Best current thinking on regulatory design for performance-based building codes is that Standards have continued to provide a critical interface between industry the objectives and requirements (Bukowski, 2003).

2. *What is the best way to provide compliance guidance (for example, should New Zealand Standards be the main or only method of compliance)? Why?*

The Council considers New Zealand Standards to be the main way compliance documents should be provided. The IRCC model describes and illustrates the role of Standards for several tiers of the model (IRCC 1998), and as New Zealand's national Standards body, the Council is well placed to provide standardisation solutions alongside other national Standards bodies (such as Standards Australia) and international Standardisation organisations (such as ISO and the IEC).

Further to this, most developed countries using a performance-based framework for their building regulatory system use their national Standards body, and the robust Standards setting process they manage, to gather sector expertise to deliver solutions for compliance documents (tier 7 and 8 of the IRCC model).

The Council has strong relationships with many other national Standards bodies, , and the international Standardisation organisations, enabling low-cost access to expert rich intellectual property to develop Standards intended to be referenced in compliance documents for New Zealand. This access to standardised knowledge about seismic design from across the international research communities enables the Council to ensure the best information, from around the world, is channelled through New Zealand experts when requirements are being developed.

The majority of New Zealand Standards that are directly referred to within the building regulatory framework are currently referenced within acceptable solutions and verification methods, with one Standard directly cited in the Building Act 2004.

Standards are critical components of performance-based building regulatory systems, as the IRCC paper by Bukowski (2003) reports. Traditionally, they have been used to provide test or measurement requirements, procedures, interoperability Standards for how products might fit together, and Standards for professional practices. Now, they are also used to provide performance metrics for materials, products and systems by which their performance in the context of their use can be determined.

By and large though, the Council has provided documents for quasi-regulation solutions since 1932, and this has largely been effective and instilled confidence with stakeholders that a robust, fair, and inclusive process has been used to set requirements.

Under the current IRCC based building regulatory system, the Council considers Standards to be a critical means of setting requirements. The Standards setting

process enables consistency, robustness, transparency, and an efficient means for developing compliance documents and non-regulatory instruments such as voluntary Standards.

3. *What guidance could or should be given on the compliance methods so that these methods are efficiently and effectively incorporated into the Building Code? Who would or should undertake this work?*

The Council considers that the learnings from the IRCC can continue to provide best current thinking for the regulatory framework and implementation. As a regulatory design function, this work should be undertaken and led by MBIE.

The Council considers that guidance should be sought in the following areas to improve the selection, design, and implementation of compliance methods:

Sector coordination and leadership

By providing a more integrated approach to research, standardisation, implementation and education, the adjustments to the system should be considered under programmes of work rather than individual projects carried out in isolation. This would lead to cost and time efficiencies and system adjustments designed and measured against expected outcomes. Learnings could also be sought from the Australian Building Controls Board. MBIE would be best placed to carry out this work, in consultation with input from the sector associations.

Understanding outcomes (intervention logic)

Improvements in the selection and design of system adjustments would improve cost and time efficiency. The Council considers that an advisory board should be established to support and advise MBIE on risk profiles, options, and impact assessment and measurement. This advisory board could also assist in assessing proposed national policy statements, the IRCC tier they are targeted at, and the impacts of these for MBIE.

This work for each proposed system adjustment could lead to a Preliminary Impact Analysis (PIA). A PIA is an early-stage analysis of the impacts associated with a proposal to alter the New Zealand Building Code compliance documents. The PIA process requires that the 'problem' be identified, options to solve the problem are considered, the impacts of all options assessed, stakeholders consulted, and a recommendation put forward for decision. If a PIA finds substantial impacts, then MBIE may proceed with a full Regulatory Impact Statement (RIS), as it currently does the consideration of new or amended compliance documents. This approach is consistent with better regulatory practice promoted by the Treasury.

It is expected practice for the PIA to include evidence of the problem, supporting documentation of the impacts (both costs and benefits) and a consideration of non-regulatory solutions to solve the problem. Costs are usually quantifiable, but benefits (such as time, health, comfort, amenity, cultural values) can often be intangible and difficult to attribute a dollar amount to. In such instances, benefits should be dealt with in a descriptive or qualitative manner. In some cases, information may not be readily available; however, an attempt to obtain the required information needs to be demonstrated.

The Council also sees merit in the sharing of the PIA between interested agencies. More sharing of information and coordination between the Council and the regulator was also recommended by Roger Estall in his independent report on Section 363B of the Dam Safety Scheme (2010).

The Council considers that the use of a PIA would provide significant benefit in gauging the expected net benefit assessment of a particular proposed adjustment to the system early on. This includes:

- Economic
- Social
- Environmental impacts
- Business compliance costs
- Competition

MBIE would be best placed to undertake and lead this work in consultation with the sector associations.

Resourcing of system components

Effective resourcing of the components of the regulatory system should also be considered. This includes the mechanisms for selecting and developing cited and voluntary Standards, and guidance and educational material by the regulator, learned societies and sector associations. This is an issue that could be considered by MBIE in the current review of the standards and conformance infrastructure.

The Council considers the ability to access seismic research and knowledge from around the world to be an important component for requirements setting in this area. The Council is well placed to access this information through the Standards bodies around the world, but would need to be sufficiently resourced to carry this work out.

4. Roles and responsibilities (Section 4)

Clause 4.2 (Page 19) Responsibilities

1. *In the context of building performance in an earthquake, who should the key players in the development of the building regulatory framework be and why, and what should their roles and responsibilities be? What impediments currently exist to achieving this?*

The Council's view is that a range of players are needed for an effective building regulatory framework. They should include Government and statutory bodies as well as industry and professional groups.

The roles and responsibilities described in the IPENZ submission (ENG.IPENZ.0003.SUB) are an effective distribution of functions that would improve the regulatory system.

The Council agrees with the NZCIC submission (ENG.NZCIC.SUB) description of the responsibilities of each of the players with roles in the regulatory system.

2. *If a work programme is needed for the development of building related Standards to ensure performance in an earthquake, (as discussed above in section 3), who should lead this, what are the priority areas, and how should this be funded?*

The Council considers that experience and models used by other developed nations using a performance-based building code could be drawn on to inform New Zealand's building control framework.

A wider sector coordination programme could be led by MBIE, with advice and input from the various sector stakeholders, groups and interests. This programme should consider the interdependencies with the research programmes, policy settings and any national policy statements, and education and competency programmes.

The Council considers that there could be advantages in the establishment of a Codes Board, as used by the Australian Building Controls Board, to gather sector input and advise MBIE on regulatory and risk assessment and impacts for system adjustment options.

The development of PIAs could then lead the way for the development of Standards intended to be used to set requirements in either a cited or voluntary manner.

With an appropriately resourced Standards body and programme of work, Standards could then be developed which might include a Standards Impact Assessment (SIA). An SIA may be useful to gauge the specific impact from the Standards instrument as part of the intervention logic.

The Council considers that the priority areas are as follows:

- establishing robustness to the framework and implementation of the regulatory system,
- clarifying policy settings around the existing building stock,
- reviewing the structure clause of the New Zealand Building Code including the referenced Standards.

The Council considers the majority of this activity to be core functions of MBIE under the Building Act 2004.

The Council considers its working arrangements with the electrical sector to be an effective one. The partnership and annual Standards development work programme that is in place between the Council and the energy sector has been operating well for several years. These arrangements support a cooperative and efficient solutions-focused environment for industry, the regulator, and the national Standards body.

The Council urges that the Royal Commission to compare and contrast the energy sector with the building sector – that is, in terms of how New Zealand Standards are used to support the energy safety regulatory framework, and learning that

could be applied from the energy sector to the building sector to address the gaps we have identified in this submission.

The Council considers this model has many aspects that could be considered for the building sector. The Annual Report and Business Outlook for the regulator may be of interest to the Royal Commission (Ministry of Economic Development 2011).

Features of the model:

Function (Regulator)

1. Strategic
2. Clear intervention logic and understanding of risk, acceptable risk, and risk mitigation
3. Clarity of roles and responsibilities of stakeholders in the 'system' (including the Council)
4. Proactive reviews energy safety and public safety issues. could develop programmes, prioritise, monitor and review impacts and outcomes, and review system adjustments

Function (Regulator and Council)

1. Collaborative. The Council considers its relationship with the energy safety regulator and sector to be effective. The relationship and procedures between the Council, regulator and the energy sector has been in effect for several years and supports a cooperative and efficient solutions-focussed environment
2. Ensures efficacy and efficiency. This is achieved by:
 - a. Drawing off international Standards, in the first instance
 - b. Adapts international Standards leveraging Regional standards development processes (that is using Standards Australia and the Council)
 - c. In exceptional circumstances develops New Zealand-only amendments.
3. Clear understanding or roles; the regulator does not produce Standards. An effective sector relationship and agreed procedures has led to a shared understanding about how programmes are developed, prioritised, monitored, and reviewed.
4. In-depth and meaningful industry engagement and participation. This is both in the development of Standards, but also in identifying safety issues and prioritisation of work programs
5. Using the sector expertise. The sector knowledge and experience can be used to assist in problem definition, assessing options and risk profiles. Sector expertise can also assist in setting work programmes and priorities, recognising constraints such as voluntary expert input.
6. Understanding outcomes. The regulator preparing preliminary impact assessments, to guide the form and function of any Standard being developed.

Funding of Standards

1. Leverages international Standards
2. Leverages Standards Australia's work
3. Funds the Council with program of work

To illustrate these points, we have included a case study showing the mechanisms, committee entities, and outcomes of changes to the electrical requirements for New Zealand relating to the introduction of residual-current devices for domestic and residential installations (Appendix E).

Clause 4.3 (Page 21) Capability

1. *What examples or evidence are there of issues of competency within BCAs? What options are there to address these competency issues, if there are any? Give consideration to the different size and scope of territorial authorities across the country, and different mechanisms for acquiring expertise.*

The Council has no views or opinions to submit on the competency of BCAs.

The Council does note that it has assisted local authorities through the provision of model bylaws for several years.

The Council also considers it could assist BCAs and local authorities further through standardisation of effective practices by developing documents to assist decision making where judgement is required. An example of this is the systems based NZS 9401:2008 *Managing flood risk – A process Standard* that provides a framework to assess and treat risks associated with flooding.

2. *What skills are needed in the private building sector to ensure seismically resistant buildings?*

The Council has no views or opinions to submit on this question.

The Council does note though that it wishes to continue to draw on the knowledge and input from the private building sector to assist in setting practical, achievable, and fit-for-purpose Standards.

3. *MBIE has a Chief Engineer on its staff. What is or should be the purpose of this position? Should MBIE also have a Chief Architect and/or Chief Designer? Why or why not?*

The Council has no views or opinions to submit on this question.

However, the Council does consider that MBIE has an important role. This includes aspects such as:

- sector leadership to ensure the roles and responsibilities are clearly defined and discharged
- ensuring the building regulatory design is robust and comprehensive drawing of the best current thinking
- monitoring indicators and feedback from the system to ensure the regulatory system continues to be updated and improved including the effectiveness of interventions
- sector leadership to ensure research, standardisation, implementation, and education programmes are integrated and coordinated

- providing national policy statements where policy gaps are identified and considered necessary

If the need for this role is accepted, it would be important then for MBIE to consider the internal roles and potential responsibilities required to discharge these functions effectively.

Clause 4.4 (Page 22) *Resourcing Standards development*

1. *What should the role of Standards New Zealand be and how should it be funded?*
The discussion paper addresses this in a general sense, noting on page 22 that it raises policy issues that are wider than building performance in earthquakes but that the issues are of sufficient importance to building performance to be further investigated.

As noted at the beginning of this submission, MBIE has (in its capacity as the department responsible for the administration of the Standards Act 1988) commenced a review of New Zealand's Standards and conformance infrastructure, with a specific focus on the Standards setting process. MBIE, not the Council, is responsible for providing policy advice to the Government in respect of that review.

To meet the Royal Commission's requirements, this submission therefore comments on the Council's role and funding model in general terms but with a particular focus on their contribution to the system of building regulation

Role of the Council

The role of the Council is set out in section 10 of the Standards Act 1988. The Act describes the functions of the Council, with a primary focus on developing Standards to promote, encourage, and facilitate the use of Standards in New Zealand.

The Council is one of, but a lead provider of consensus-based standards solutions and a gateway to trans-Tasman and international standardisation. The Council's role is New Zealand's 'national Standards body', and therefore mandated as Government's central source of expertise in standardisation.

The Council has 80-years experience in developing a range of New Zealand Standards that have been deployed into the market and wider community in a variety of ways.

The Council also provides a range of Standards, including many outside of the building and construction sector. It is involved in standardising at the international, trans-Tasman, and domestic levels. These Standards are used and deployed in a variety of ways from cited into regulations or legislations, through to voluntary requirements.

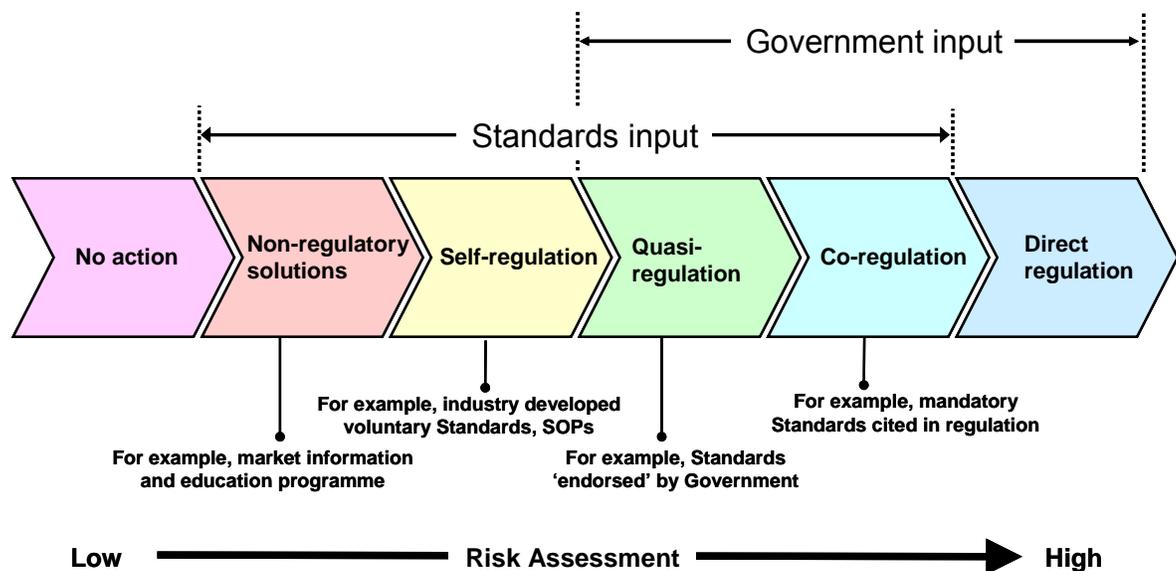
As the IRCC best-current-thinking models describes, Standards in performance-based building systems carry out the following functions.

- Test Standards
- Outcome-based construction standards or performance based

- Design practices
- Maintenance Standards
- Installation and construction Standards

More information about the types of Standards and their functions is given in chapter 5 of the IRCC guidelines (1998).

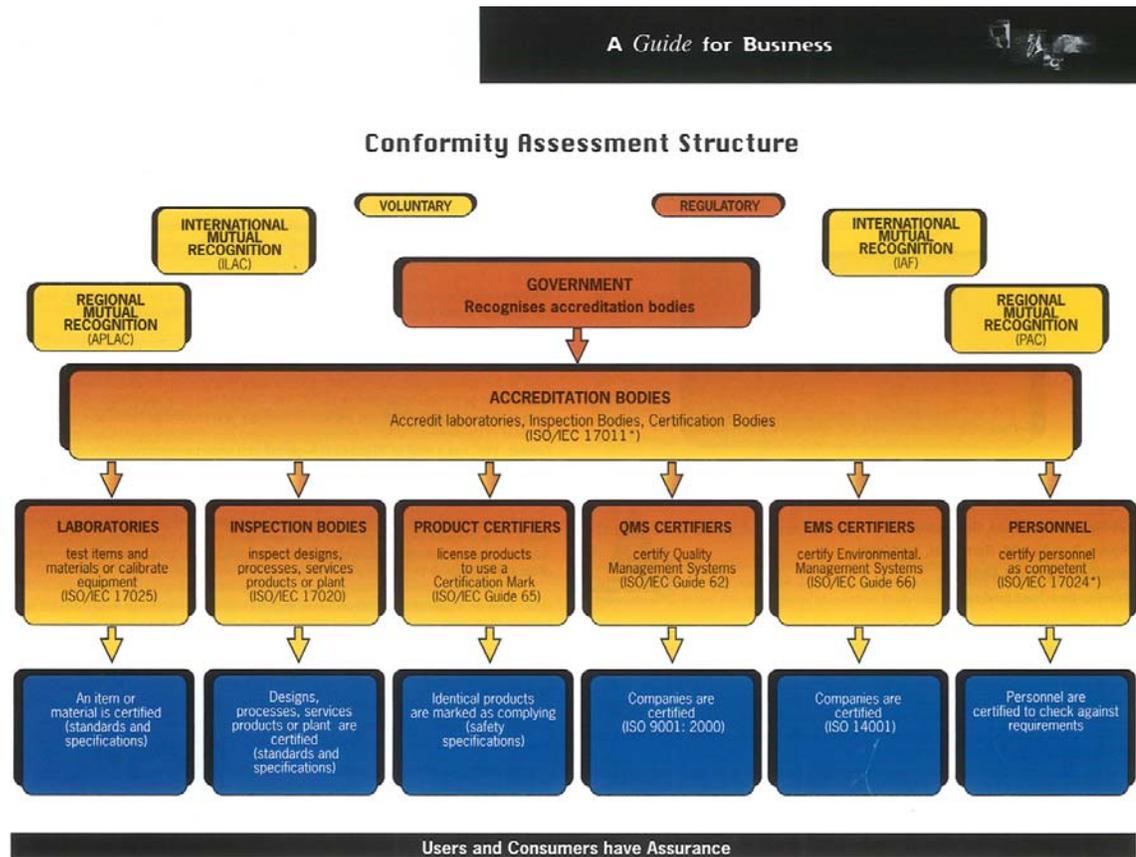
The IRCC report on the use of risk concepts in regulation discusses the decision-making process for how a building regulatory system might be adjusted. As the following diagram then shows, a Standard can then be used in several areas of the building regulatory system and at different levels of legal empowerment.



Standards also support the wider fabric of the conformance system. For the building regulatory system, they include but are not limited to the following groups of Standards:

- those used to set provisions as part of a compliance path.
- those for voluntary uptake to support alternative solutions.
- those used for test methods and material property requirements to underpin design Standards.
- those to support accreditation of Building Consent Authorities and laboratories.
- those used to support certification of products and organisations.
- those used to support guidance such as SNZ HB 4102:2011 *Safety in the home* handbook.
- those used to support systems and approaches such as AS/NZS ISO 31000 *Risk management* and AS/NZS ISO 9001 *Quality management*.

This interdependency is further shown below in the diagram from the Ministry of Economic Development, *A guide for business* (2001):



From New Zealand's standards and conformance system: *A guide for business*, Ministry of Economic Development, April 2001

The international best current thinking through the IRCC is Standards have a critical role in a performance based building regulatory system. As New Zealand's national Standards body, the Council considers itself a centre of expertise to provide Standards solutions directly as referenced or cited Standards, and also indirectly as part of the underpinning structure.

The Council sees no basis to its role in general terms. As noted earlier, that is a question which will be addressed in the MBIE review. However, one factor in that stance is the need to maintain the Council's role as the developer of Standards for use in regulatory frameworks such as that under the Building Act.

Funding of the Council

To address longstanding funding issues for Standards development, review and access for the wider building sector, the Council supports a public/private partnership as suggested by the Construction Industry Council (GEN.CIC.0001.4).

This model would see fees paid by licensed building practitioners (as part of their annual licence) dollar matched by funds from the Building Levy. The resulting pool of funds could then be used for the ongoing development and maintenance of

building-related Standards. It would also provide funding for online access for those licensed building practitioners and others opting to pay into the scheme. The Council is of the view that joint contributions from industry and Government, combined with the in-kind contribution from expert committee members, would provide a fair and sustainable funding model for building-related Standards going forward.

The Council is currently commissioning independent research to assess a range of alternative funding options and intellectual property options that could create more sustainable financing arrangements for building Standards. We intend to share this report, once completed, for the Commissioners' consideration as part of the 'Roles and Responsibilities' hearing scheduled for September 2012.

There is also identified best practice for public financing, and these are contained in range of documents as follows:

- New Zealand Treasury (2002),
- New Zealand Office of Auditor General (2008)
- Victoria Government (Australia) (2010)

2. *What are the advantages, disadvantages and risks of relying on Standards for the majority of building and construction methodologies?*

The Council considers it has provided relevant information to this question in its second submission (ENG.STA.0009A).

At a macro level, Standards can reduce uncertainty and facilitate trade. They can assist in overcoming the challenges of complex information and knowledge gaps. They can assist in addressing spill over costs (negative externalities), and provide a fair and transparent system that all stakeholders can engage in. They can provide fast and targeted responses to market needs, and ensure consistency with international trade objectives and agreements.

The Council considers these New Zealand Inc. benefits are achieved through the inclusive development processes it uses and its strong connections with the international standardisation community. An example of this is the use of ISO 2394:1998 *General principals on reliability of structures*. This Standard provided the philosophy and principles to set out the AS/NZS 1170 *Structural design actions* loading Standard series. This loading Standard is itself a document of requirements developed with robust processes, and drawn off a substantial amount of international research and evidence. It was developed as an Australian and New Zealand Standard enabling a much wider pool of expertise and technical consideration of the requirements being set.

The Council administrates the technical barriers to trade enquiry point on behalf of New Zealand. This aligns with the principles of good standardisation which is that each country should strive to align its local requirements to facilitate trade and minimise obstacles.

Standards provide an inclusive process for stakeholders. This ensures all users have the opportunity to participate which engages them in the requirements setting processes and helps to provide a deeper understanding of why requirements may

have been set. Our inclusive process also ensures affected stakeholders have the opportunity to provide input, and where possible contribute to workable solutions and requirements. This is a requirement under Section 10(3) of the Standards Act 1988.

Standards do require monitoring, maintenance and review. The resourcing of Standards continues to be a challenge as reflected by the Royal Commission discussion paper that called for submissions on this issue.

3. *Should primary reliance continue to be made on volunteers?*

For 80-years, the Council has depended on experts. These experts have come together to discuss and debate requirements with the purpose of standardising practises, materials and test methods.

The volunteer model continues to be the common international approach due to funding arrangements. However there are variations on this approach with targeted funding of activities such as for the following:

- technical writers to prepare preliminary drafts of Standards
- reimbursement of travel and accommodation costs for experts (where Standards bodies are funded to achieve this)
- contracting of services from selected experts for specialist peer reviews (where Standards bodies are funded to achieve this)

The development of Standards using volunteers is challenging in the modern environment. This is particularly so where a Standard is intended to provide a regulatory function.

The Council still considers it critically important that requirements for Standards are developed based on evidence. That Standards are debated and discussed between sector experts and a position of consensus is reached. A premise of Standards internationally is a fair and transparent opportunity to contribute to the process. A reliance on volunteers does create a challenge, and occasionally a barrier to achieving this in some cases.

The Council have undertaken a limited survey of its volunteer base through an independent consultant. The Council supports targeted funding of volunteers if and where appropriate to ensure quality outcomes continue to be achieved.

4. *In the event that Standards New Zealand is unable to source volunteers, what other means of funding might be available?*

To address longstanding funding issues for Standards development, review and access for the wider building sector, the Council supports a public/private partnership as suggested by the Construction Industry Council (GEN.CIC.0001.4).

This model would see fees paid by licensed building practitioners (as part of their annual licence) dollar matched by funds from the Building Levy. The resulting pool of funds could then be used for the ongoing development and maintenance of building-related Standards. It would also provide funding for online access for those licensed building practitioners and others opting to pay into the scheme. The Council is of the view that joint contributions from industry and Government,

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There is also identified best practice for public financing, and these are contained in range of documents as follows:

- New Zealand Treasury (2002),
- New Zealand Office of Auditor General (2008)
- Victoria Government (Australia) (2010)

This research will also consider the options for maintaining expert input.

5. *Should there be more use or less use of mechanisms other than Standards to develop and provide methodologies for compliance; why or why not? Who would or should do this work and how should it be funded?*

The Council considers that there should be less use of other mechanisms other than Standards for preparing compliance documents.

The Council agrees with the IPENZ (2011) submission that there needs to be clear ownership and development protocols, and for documents that give effect to mandated policy, and that this mechanism should be New Zealand Standards.

The use of consistent protocols and processes for compliance documents, such as the Council's Standards process, will provide users with a clear understanding and expectation on the robustness of the requirements set.

The methodologies and ownership for documents for the regulatory system should be dependent on their role and risk profile.

This reflects the IPENZ submission, as follows:

- Community expectations should be standardised through the policy and legislative mechanisms by the regulator.
- Technical requirements that give effect to mandated policy should be standardised through New Zealand Standards.
- Guidance material should be standardised and delivered by the regulator, learned societies, expert professional bodies, and associations.

Clause 4.5 (Page 25) *Obtaining regulatory approval for building work*

1. *How well do you think the current consenting system works and why?*

The Council has no views or opinions to submit on this question.

2. *Are there any issues with the intersection of roles between territorial authorities and building consent authorities; why or why not?*

The Council has no views or opinions to submit on this question.

3. *Do you consider the status quo (local control by BCAs), a national model as described above, or an alternative option, would provide the most effective and efficient consenting process for complex building work?*

The Council has no views or opinions to submit on this question.

4. *Where do you think the focus should be within the consenting system in terms of risk? Are there any changes needed, taking into account those already introduced in the Building Amendment Act 2012? Why or why not?*

The Council has no views or opinions to submit on this question.

Clause 4.6 (Page 27) Quality assurance

1. *Comment on the proposed model for regulatory approval by NZCIC – what aspects of this model should or should not be adopted and why?*

The Council has no views or opinions to submit on this question.

2. *When might producer statements be used and why; what benefits do they provide? What, if any, standard should such statements be required to meet?*

The Council has no views or opinions to submit on this question.

The Council does note, however, that a producer statement form is provided as part of NZS 3910:2003 *Conditions of contract for building and civil engineering construction*. This producer statement form is used by contractors where the agreed commercial arrangements have 'Special Conditions'. These conditions may require a producer statement form to be submitted before the engineer issues a certificate of practical completion.

3. *What standing, if any, should producer statements have?*

The Council has no views or opinions to submit on this question.

4. *When should a mandatory peer review take place (i.e. type of building, complexity level)? Who should the costs of a peer review fall upon?*

The Council has no views or opinions to submit on this question.

5. *What guidance (and level of guidance) should there be on the use of peer review (for example, a matrix guiding peer review requirements) and who would or should be responsible for developing and providing and enforcing (if reviews are mandatory) this?*

The Council has no views or opinions to submit on this question.

6. *Who should conduct peer reviews? Should there be any specific requirements (for example, independence) and why or why not?*

The Council has no views or opinions to submit on this question.

7. *Do peer reviews need to be audited and if so by whom?*

The Council has no views or opinions to submit on this question.

5. Information about building performance (Section 5)

Clause 5 (Page 28) Information about building performance

1. *Comment on whether there are any gaps, weaknesses or omissions in the information available on the performance of buildings in an earthquake such that affected parties can make informed decisions. How might these be addressed?*

The Council has no views or opinions to submit on this question.

2. *What benefits might the implementation of a building warrant of fitness, to check for building deterioration, provide? What costs or disadvantages might this lead to?*

The Council has no views or opinions to submit on this question.

The Council does note that it would be willing assist the sector, within its resourced means, with any standardisation of requirements to support a building warrant of fitness system.

6. Conclusions

The Council thanks the Royal Commission for the opportunity to provide a submission intended to assist with the hearing on roles and responsibilities.

This submission has been prepared in response to the questions provided by the Royal Commission discussion document.

The Council respectfully suggests that the Royal Commission consider making recommendations on the following points.

- **Need for more sector leadership.**
As this submission has stated, a stronger coordination and leadership across the sector would enable changes to the regulatory system adjustments with other national programmes underway such as research, education, and standardisation. It would enable sector stakeholders to operate within programmes of work as opposed to projects so that resource efforts can focus on common outcomes.

Coordinated and integrated programmes could also support better education and awareness about the regulatory system.

- **Clarify intervention logic.**
Clarity about the basis for system adjustments would ensure risk assessment and options are considered effectively. Subsequently any tools or instruments, such as Standards, could then be designed fit for purpose based on a common understanding of the expected outcomes.
- **Appropriately resource components of the regulatory system.**
The development of any tools and instruments for adjustments to the regulatory system need to be resourced effectively so that they are developed appropriately and access to use them is encouraged. The use of International Standards and Trans-Tasman Standards also enable resource efficiencies to be gained. Where domestic influences dictate, International or Trans-Tasman Standards should be used with a National Differences Document or as the basis for a New Zealand Standard to minimise resource costs and ensures New Zealand does not isolate itself from the worldwide collective knowledge pool.
- **Clear the backlog of updates and review of building sector Standards.**
A number of building and construction Standards continue to need review, and opportunities exist for requirements to be updated with more recent research and evidence. The effectiveness of tools and instruments, such as Standards is severely hampered through a lack of monitoring of their effectiveness and ongoing review and update.
- **Maintain industry engagement.**
The opportunity to participate is an important and strong mechanism to gain sector buy-in to requirements and ensure solutions are practical and achievable. The Council's experience is that a significant amount of technical knowledge, research, and innovation is held by industry, and it is important this knowledge can be used in a fair and transparent manner, and to ensure requirements are based on the best information available at that time.

Appendix A Standards used in the building regulatory system

Building Act 2004

There is 1 New Zealand Standard directly cited as part of the Building Act 2004.

Compliance documents (includes Acceptable Solutions and Verification Methods)

There are 147 New Zealand Standards referenced in the compliance documents.

There are 114 joint Australian/New Zealand Standards referenced in the compliance documents.

There are 10 overseas Standards that have been adopted by New Zealand and incorporated into the compliance documents

That is, a total of 271 Standards.

Handbooks

There are 13 New Zealand Standards referenced in the NZBC handbooks.

There are 7 joint Australian/New Zealand Standards referenced in the NZBC handbooks.

That is, a total of 20 Standards.

Secondary references

At a secondary reference level, there are 245 New Zealand Standards referenced by Standards that have been directly referenced.

At a secondary reference level, there are 548 joint Australian/New Zealand Standards referenced by Standards that have been directly referenced.

At a secondary reference level, there are 10 overseas Standards that have been adopted by New Zealand referenced by Standards that have been directly referenced.

That is, a total of 840 Standards.

Wider Standards network

These Standards are then underpinned by a wider network of Standards including from the following sources:

<http://eurocodes.jrc.ec.europa.eu/showpage.php?id=13>

<http://shop.bsigroup.com/en/Browse-by-Subject/Eurocodes/?t=r>

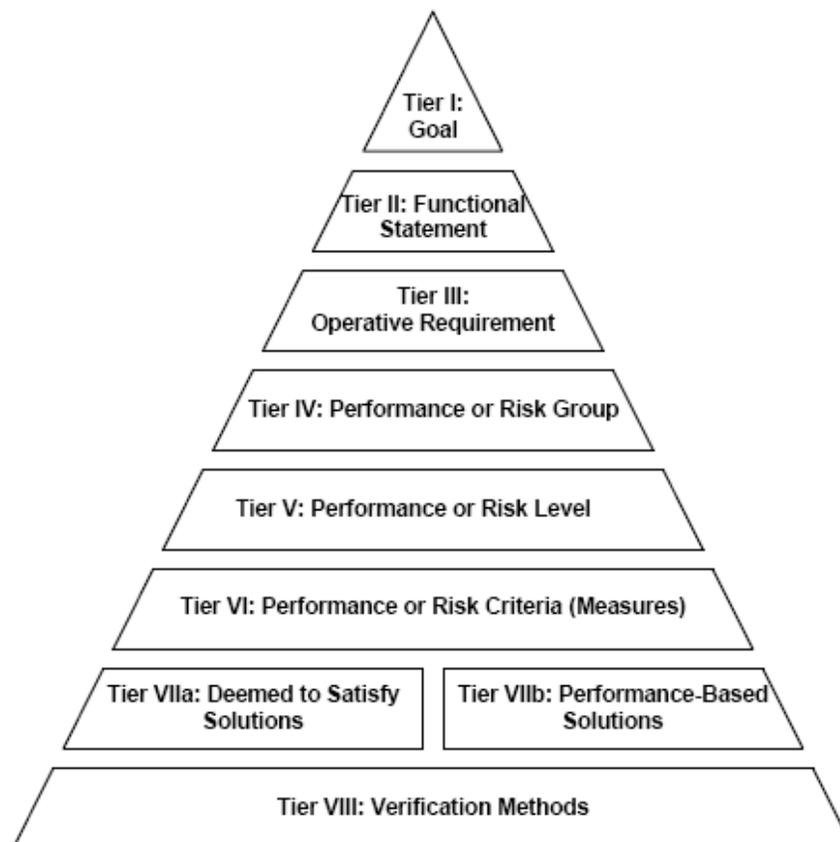
<http://www.techstreet.com/cgi-bin/results>

<http://www.abcb.gov.au/>

<http://www.astm.org/search/site-search.html?query=building&cartname=mystore#76221567>

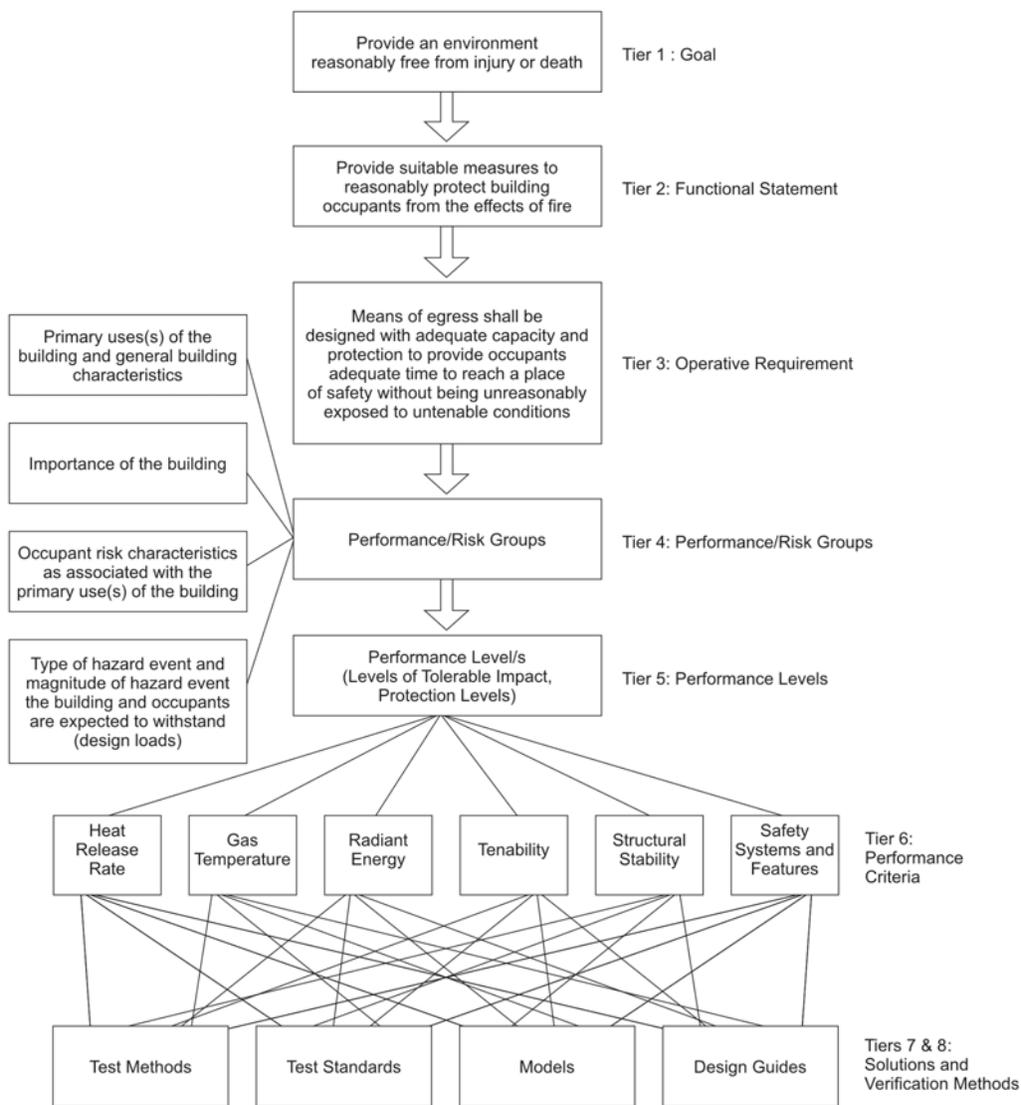
Appendix B Performance based regulatory model

This diagram shows the basis of the IRCC Nordic-based model for performance-based building regulatory systems. These diagrams show the base model, the New Zealand model, an idealistic example, and a New Zealand example.



(IRCC, 2010)

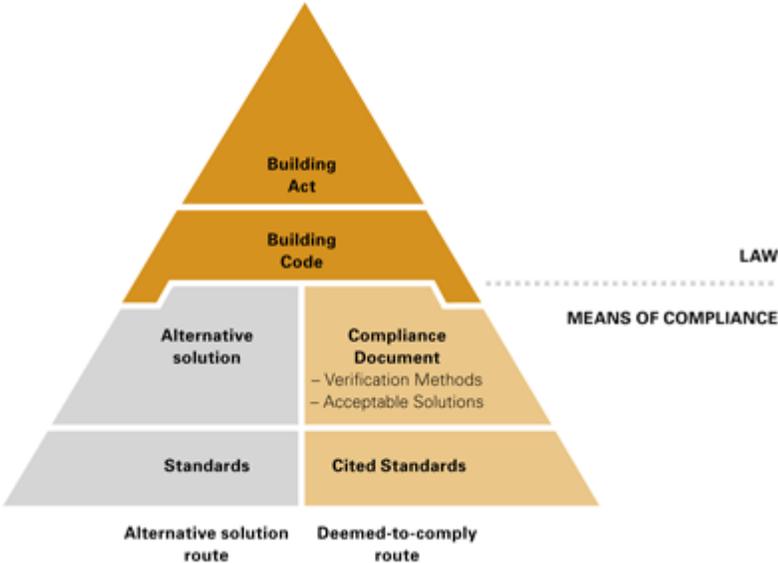
IRCC 8-tier performance based building controls model



(IRCC, 2010)

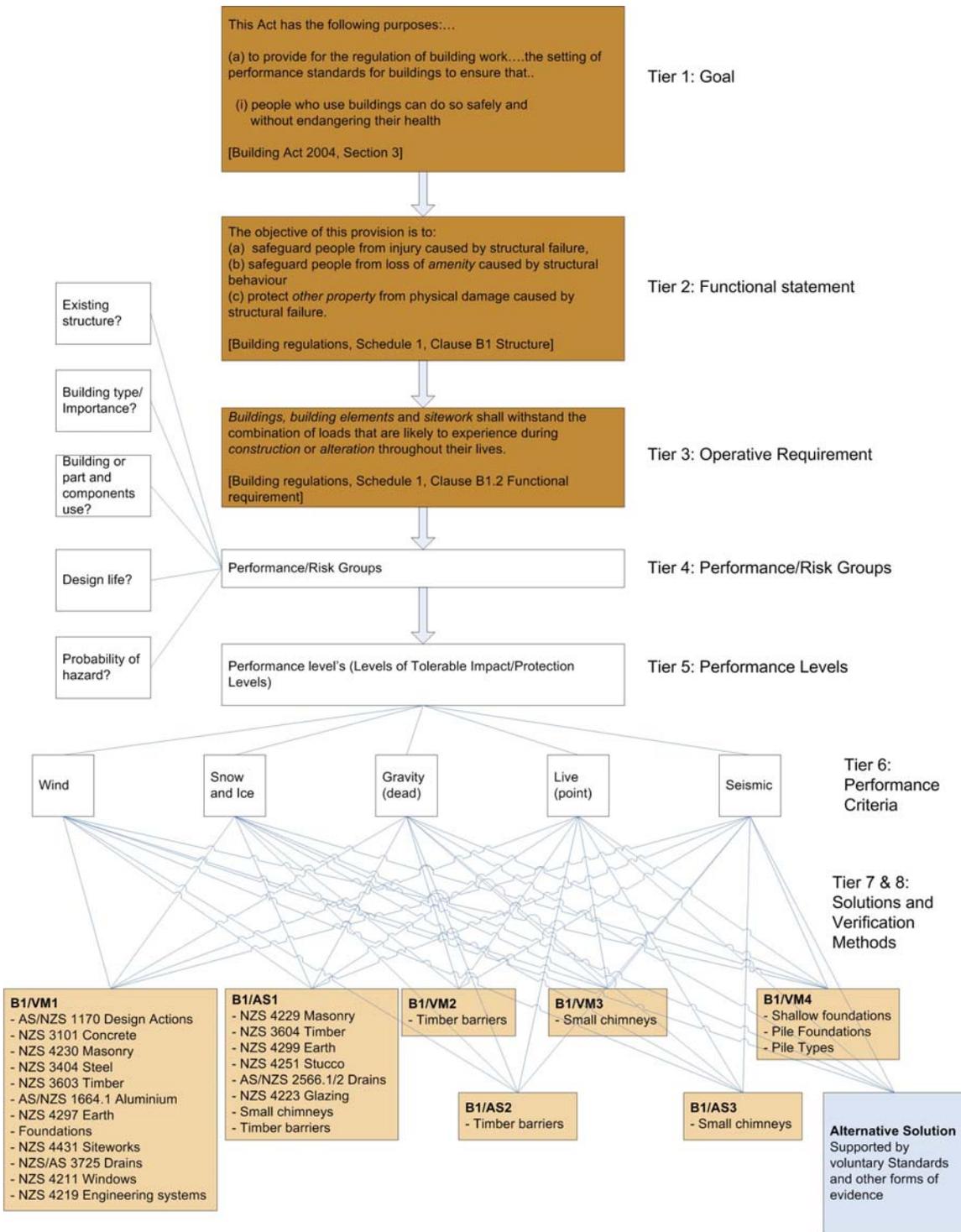
Example of a performance based building controls model

An overview of building regulation



(retrieved from www.dbh.govt.nz)

New Zealand performance based building controls model



New Zealand performance based building controls model example for structural performance

Appendix C Examples of gaps in the performance-based regulatory model

This appendix provides examples of reports and submissions acknowledging the gaps in the New Zealand regulatory framework:

Clarity on processes for Alternative Solutions

In 2002, the Weathertightness Overview Group Report (commonly referred to as the Hunn Report) made a number of recommendations, including reviewing the Building Act to improve compliance process efficiency and reduce sector confusion.

'The recommendations were that the Building Industry Authority:
a) develop more prescriptive Acceptable Solutions and Verification Methods for Approved Documents B2 Durability and E2 External Moisture;
b) develop recommended procedures and processes for the development and approval of Alternative Solutions;
c) promote with Standards New Zealand the development of a national performance-based Standard for domestic building weathertightness'

Finding the balance between performance and prescriptive

Dr. Peter Mumford, currently a Director at MBIE, in his doctoral thesis, and subsequently through published articles, describes performance based regulatory systems as 'experiments'. In addition to this, defining what good attributes might be for a performance- based regulation (Mumford 2010).

The Council considers Proportionality is one aspect that the latest Building Act reforms have sought to address. That is, the burden of rules and their enforcement being proportionate to the benefits that are expected to result. Through practitioner licensing, mandatory consumer contracts, and the introduction of restricted building works, gaps around proportionality caused by the Building Act 2004 have been identified and targeted.

Sector coordination and efficient use of resources

The review of Section 356B of the Dam Safety Scheme (Estall 2010) goes on to identify concerns about the sector coordination to ensure instruments are developed efficiently and cost effectively:

In Section 4 Risk controls, the report states:

'Some concern was expressed that there had been insufficient coordination between Standards New Zealand and the Department of Building and Housing (DBH) and that this could adversely affect the adequacy and efficiency of development of standards that are to be cited.'

Policy objective alignment

New Zealand Productivity Commission - recommendations for effective building regulations for the 'productivity of the building industry and their impact on housing affordability' (2012)

The New Zealand Productivity Commission assessed the regulatory framework for residential buildings in NZ, and considered regulatory best practice. Issues were identified, and made recommendations, covering:

1. The benefits and costs of regulation
2. Impact on innovation
3. Administrative efficiency
4. System monitoring
5. Accessibility, communication and coherence.

Appendix D Report on building relationships: Angus & associates



Building Relationships

A Review of Working Relationships between
the Building Industry Authority, Building Research Association
of New Zealand Incorporated and SNZ

Report Prepared For

BIA, BRANZ Inc and SNZ

August 2004

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Introduction

Background

Primarily as a result of the weathertightness issue, the current building control system in New Zealand is under review. Proposed changes to the Building Act 1991 include improved building controls and a more proactive regulator, better administration of building controls, more skilled and informed building practitioners and better informed (and protected) customers.

The Building Industry Authority (BIA) is the Government agency that reviews New Zealand's building laws. Intended changes, as set out in the Building Bill, will enable the BIA to take a more proactive role in developing, monitoring and enforcing building regulations.

The Building Research Association of New Zealand Incorporated (BRANZ Inc) is an industry association, wholly owned and governed by the New Zealand building and construction industry. A key function of BRANZ Inc is funding (via the Building Research Levy) a range of research, publications and education programmes mainly through its wholly owned subsidiary BRANZ Limited.

Standards New Zealand (SNZ) is the trading arm of the Government-owned Standards Council. The Standards Council oversees the development and adoption of standards and standards-related products. SNZ is entirely self-funded; its revenues sourced from contracts with various industries and the Government agencies in conjunction with the sale of Standards, other documents and activities such as seminars. SNZ operates across many sectors within the New Zealand economy, including the building sector. The building industry is and will continue to be a significant sector for SNZ.

The next year will see major changes occurring in the building industry. New legislation, together with the outcome of the Building Research Levy review and the move of BIA into the new Department of Building and Housing, will all have a major impact on the shape of the sector in the future.

In this environment, it will be important that all stakeholders work effectively and efficiently together, both to ensure the smooth implementation of forthcoming changes, and to deliver to new industry expectations in the future.

To this end, BIA, BRANZ Inc and SNZ have commissioned an independent review of working relationships between the three parties to help clarify opportunities for greater alignment and to resolve actual/potential impediments.

Objectives

The objectives of this review are to: -

- Build a common understanding of the **objectives, roles and responsibilities** of the BIA, BRANZ Inc and SNZ – both currently and taking into account the implications of changes in the operating environment (such as implementation of the new Building Bill and changes in the status/structure of the BIA). This includes making transparent organisational 'drivers' and the conditions and constraints under which each organisation operates.
- Identify areas where the strategic interests of the three organisations meet and where there may be opportunities for more collective or co-operative effort and for greater alignment.

- Identify areas where the (strategic and operational) interests and/or activities of the organisations **overlap**, and where processes or protocols may be required to reduce overlap, ensure alignment and/or resolve potential conflicts (as appropriate).
- Identify areas where the (relevant) needs of external stakeholders are not currently addressed by the activities of the three organisations and where additional work may be required by one or more of the three parties.
- Evaluate the extent, nature and quality of relationships and working processes/protocols that currently exist between the three parties – in the process identifying both opportunities for improvement and any 'issues' that may impede constructive inter-agency working relationships in the future.
- Establish a relationship model and a framework for future working processes and protocols.
- Provide a foundation for effective and efficient implementation of changes prescribed by the revised Building Act (and other reviews).

For reasons of relevance, it was deemed necessary that the review be undertaken in the context of those functions determined by statute, and with reference to the needs and expectations of external stakeholder groups.

Approach

The review was undertaken in the following stages: -

1. Development of a Terms of Reference for the review setting out objectives and process for the review. Development of the Terms of Reference involved discussions with the Chief Executives and senior management of the BIA, BRANZ and SNZ. Representatives of the Ministry of Economic Development (MED) were also consulted.
2. A review of background information considered relevant to the review (see appendices – Background Reference Material). This included statutory obligations and a selection of materials published by each agency for its key stakeholder groups.
3. Consultation with nominated representatives of each agency, and a range of external stakeholders (see appendices – Stakeholders Consulted).
4. Preparation of this report setting out the range of issues, opportunities and impediments to be addressed in a new working framework, and recommended processes and protocols to support working relationships moving forward.

Executive Summary

This review of working relationships between BIA, BRANZ Inc and SNZ is based on a series of discussions with external industry stakeholders and representatives of the three parties concerned.

The focus of the review is on areas of common interest, acknowledging that both BRANZ Inc and SNZ also perform functions beyond the immediate concern of BIA (or each other). This sphere of common interest has been identified as relating to the "public good" and specifically concerns the design, development and implementation of New Zealand's Building Controls Regime.

While there is already considerable interaction occurring between the three agencies on matters of mutual interest, this review suggests opportunities for greater co-ordination and alignment between BIA, BRANZ Inc and SNZ, both at strategic and tactical levels.

At a strategic level, there is a need for co-operation on planning over the medium- to long-term. At a tactical level, there is a need for greater co-ordination on programmes of work, particularly as they relate to education and the transfer of information, and to Code-related research.

The review has also identified some specific issues which require attention and/or resolution between the three parties to support collaborative work in areas of common interest. These issues relate to: -

- Ownership of Intellectual Property
- Funding of Building Code-related research and standards
- The methodology employed in the review and development of sector standards
- Clarity around the separation of BRANZ Inc and BRANZ Limited.

Substantial progress has been made through the course of this review, with actions identified to enhance co-ordination between agencies on education and information programmes, and in relation to research. However, further work is required to identify processes for inter-agency planning and to reach resolution on the issues outlined above.

Looking forward, an immediate priority is to agree a framework within which the three organisations will operate to achieve their common objectives.

Acknowledging that BIA has primary responsibility for Code development and compliance, and that both BRANZ Inc and SNZ have supporting roles to play to the BIA in this regard, this report puts forward two working models for consideration.

The preferred model is one of 'strategic alliance' in which BRANZ Inc and SNZ proactively support BIA on matters of Code-related research and Code-related industry standards. This model allows leverage of the expertise residing within BRANZ Inc and SNZ and makes best use of these organisations' established industry networks.

At the same time, it is anticipated that BIA will maintain its relationship with BRANZ Limited and others to ensure it has access to the wide range of expertise it requires.

A successful strategic alliance will require BIA, BRANZ Inc and SNZ to work to an agreed set of principles. While still to be finalised, these might include: -

- BIA will clearly articulate its plans with respect to Code development (e.g. the specific clauses to be reviewed or developed) and the requirements it will have for research, guidance materials, education programmes, and standards development. (It is noted that in the future - through its advisory groups, its greater emphasis on the monitoring of TAs and through an increased technical capacity - BIA expects to be in a better position to gather and synthesise industry intelligence, which in turn will help to inform industry research priorities, than it has been in the past.)
- Such plans will be shared with BRANZ Inc and SNZ at the earliest possible time (i.e. co-ordinated planning will take place with a long-term horizon in mind).
- Both BRANZ Inc and Standards New Zealand will recognise the particular needs of BIA when planning their own programmes of work (i.e. as regulator and a major industry stakeholder, BIA will have a significant input to research and standards agendas). In the case of research funded by the Building Research Levy, potential projects identified by BIA (Code- and/or standards-related) will be assessed alongside others according to criteria which address industry good.
- BRANZ Inc will recognise the congruence of industry good and Code-related research in setting priorities for expenditure of the Building Research Levy.
- Simultaneous to the above, BIA will promote its needs as being 'industry needs' through other industry forums.
- Where any shortfall exists in funding Code-related research or Standards development, BIA will work with BRANZ Inc, Standards New Zealand and others to identify and secure alternative sources of funding. Ideally, this will be undertaken in the context of a well-considered long-term programme of research for the industry.
- In developing standards, SNZ will satisfy BIA's requirements for: cost-effectiveness, timeliness, consideration of consumer issues and consideration of leading building construction practice (rather than simply codifying current practice). In this respect, it is anticipated that SNZ will continue to work with BIA to ensure that appropriate funding models are in place and that the most appropriate people are serving on standards committees.

Once agreed, these principles will need to be supported in practice. While a number of initiatives have been identified to improve and integrate planning, and to support greater co-ordination between agencies, further work will be required.

Roles and Responsibilities

As a starting point, this section of the report considers the statutory and other functions of BIA, BRANZ Inc and SNZ, in order to identify where common interests or objectives lie.

Statutory Functions

There are a number of developments occurring in the operating environment; most notably, the impending introduction of the new Building Bill and reviews of the Building Levy and Building Research Levy. These developments may lead to changes in the roles, structure, funding and specific functions performed by the three parties to this review.

In the meantime, it is clear that each agency has statutory obligations in respect of the building and construction sector. These are: -

- **BIA:** to promote effective and efficient building controls throughout New Zealand as a means of safeguarding the health, safety and amenity of people, protecting property from damage, and facilitating efficient use of energy. (Draft Building Act)
- **BRANZ Inc:** to ensure that the industry's research and technology transfer funds are invested to meet industry needs and priorities. (Building Research Levy Act)
- **SNZ:** to develop Standards and to promote, encourage and facilitate the use of such Standards in New Zealand. (Standards Act)

As a Crown Agency, the **BIA** is answerable wholly to the New Zealand Government and its full range of functions are prescribed by the Building Act; that is, to: -

- . Advise the Minister of Commerce on matters relating to building control;
- . Approve documents for use in demonstrating compliance with the New Zealand Building Code;
- . Determine matters of doubt or dispute in relation to building control;
- . Review the operation of territorial authorities and building certifiers in relation to their functions under the Building Act;
- . Approve building certifiers;
- . Grant accreditation of building products and processes; and
- . Provide information, education and advice on building controls.

Under the terms of the Building Research Levy Act, **BRANZ Inc** is required to "use Levy funds for promoting and conducting research and other scientific work in connection with the building construction industry" (the Act goes on to specify a number of compliant activities). In a broad sense, it is expected that Levy funds be used for 'general industry good'; i.e. invested in research, advice and other services which benefit the industry as a whole.

SNZ is a self-funded organisation that is required to develop, review, update and promulgate New Zealand Standards within a wide range of industries. SNZ is also responsible for undertaking and promoting research and educational work in connection with the development and use of such Standards.

Other Functions

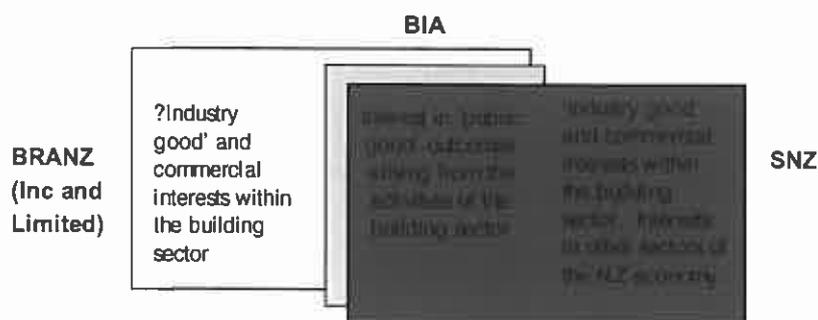
In addition to the Minister of Commerce, 'stakeholders' of the **BIA** include territorial local authorities, private building certifiers, building industry practitioners (from design to construction), building material manufacturers, and consumers. To satisfy its regulatory obligations, BIA sees its functions as threefold: firstly, to ensure building controls are **designed** to achieve the optimal balance between societal expectations, innovation and cost imposition on the building industry; secondly, to ensure **effective application** of building controls; and thirdly, to understand **performance outcomes** in order to guide improvements in the regulatory building controls regime.

An incorporated society, **BRANZ Inc** has obligations to report to the Ministry of Research, Science and Technology in return for funding received under the Building Research Levy Act. However, BRANZ Inc is also answerable to its membership and industry stakeholders, who nominate its Board. The Board determines the industry's research priorities and is responsible for the prudent investment of the Building Research Levy. (BRANZ Limited, a wholly owned subsidiary of BRANZ Inc, provides a range of services such as research, testing, consulting, certification, education and publications, on a commercial basis).

While **SNZ** has a responsibility to the building and construction sector under the terms of the Standards Act, it has equal responsibility to a range of other industry sectors in New Zealand. As a Crown Entity, the Standards Council is responsible to the Minister of Commerce and the Council itself is nominated by a broad range of stakeholder interests from across the New Zealand economy.

Field of Common Interest

Taking both statutory and other functions into account, the interests of the three agencies to this review can broadly be seen to align (and diverge) as follows.

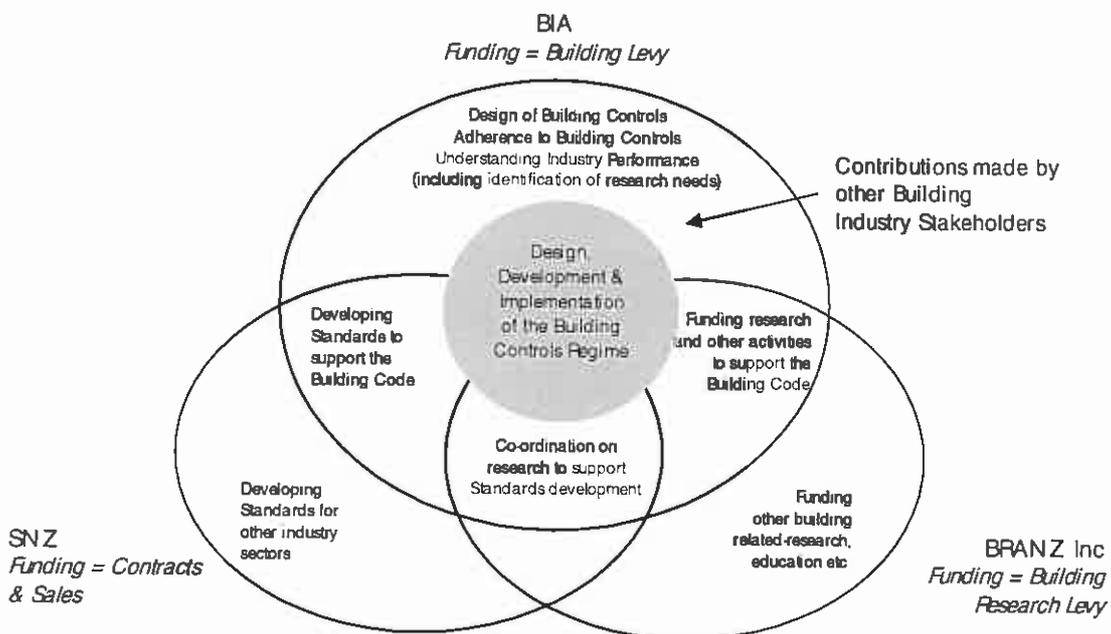


In other words, while both BRANZ Inc and SNZ also have other interests, all three agencies share an interest in public good outcomes arising from the activities of the building sector: -

- **BIA** as building industry regulator;
- **BRANZ Inc** as recipient and investor of funds for industry good research and advice, and as a promoter of best building practice;
- **SNZ** as an independent expert in the process of developing standards, and as a promoter of accepted standards within the building and construction sector.

This suggests the agencies have good reason to work collaboratively on matters contributing to the public good and, in particular, that both BRANZ Inc and SNZ have an interest in assisting BIA to fulfil its obligations as building industry regulator.

On this basis, the sphere of common interest might be defined in the following terms: the design, development and implementation of the building controls regime. Within this sphere of common interest, the roles of the three agencies can be described as follows.



In this context, both SNZ and BRANZ Inc play essential roles in supporting BIA's work as building industry regulator (although it should be noted that BRANZ Inc does so at its discretion and for the benefit of industry, rather than from any regulatory or legal obligation).

Importantly, the contribution of each agency extends beyond the 'core function' suggested above (e.g. research, standards development) to encompass the gathering of industry intelligence and other activities to support Code implementation.

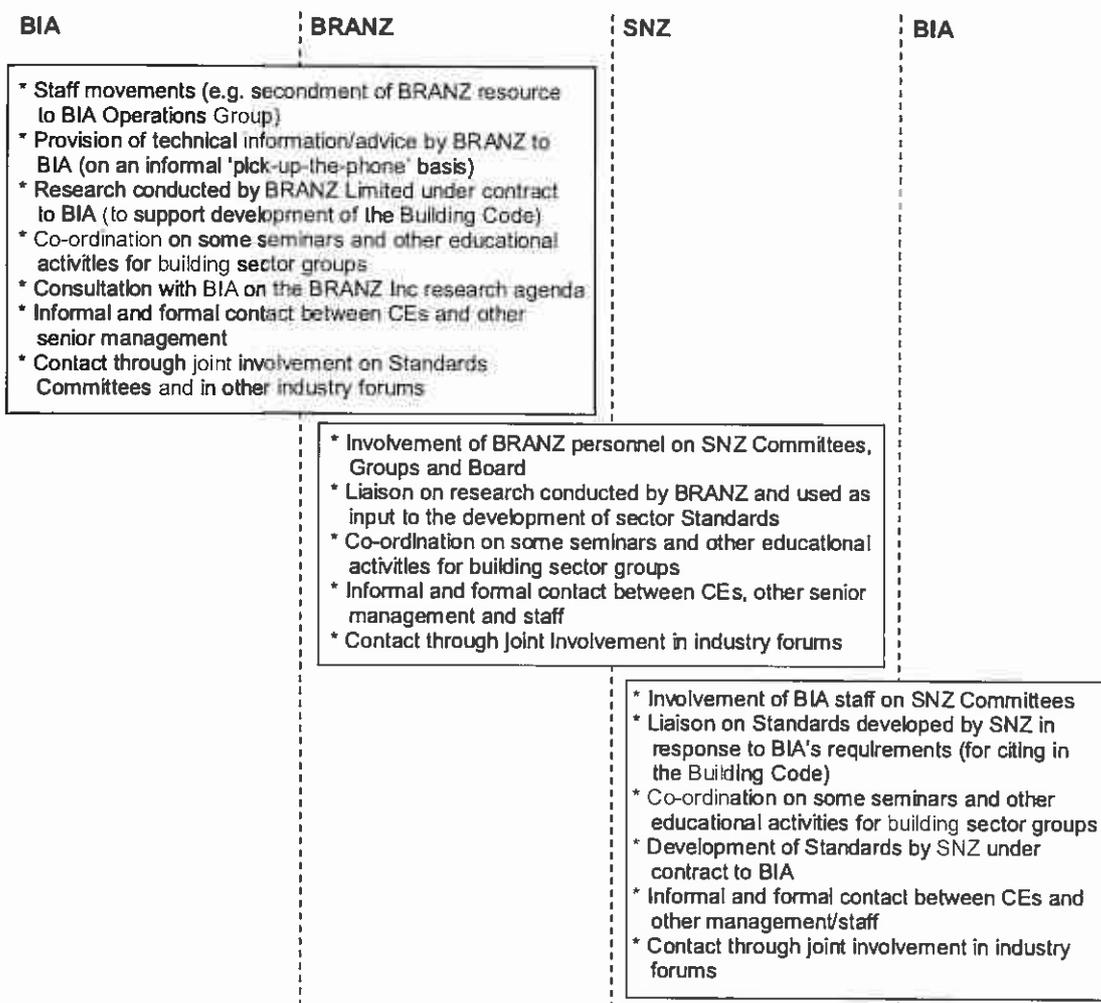
BIA (REGULATION)	Understanding the performance expectations of building users	Specifying requirements for the Building Controls Regime	Implementing Code requirements	Monitoring compliance	Measuring outcomes
BRANZ Inc (RESEARCH)	Research and Industry intelligence	Research and information	Education and Advisory services		Research and market Intelligence
SNZ (STANDARDS)	Industry Intelligence	Standards development	Education regarding standards		Industry intelligence
Others – e.g. Territorial Local Authorities	Industry intelligence	Local planning rules	Building consents	Inspections, CCCs	Reporting

Current Working Relationships

Given that common interest exists, this section of the report considers working relationships between BIA, BRANZ Inc and SNZ and, in particular, the areas in which there is opportunity for greater co-ordination and/or alignment.

Current Interaction

Based on discussions with representatives of the BIA, BRANZ and SNZ, it is apparent there is significant (formal and informal) interaction occurring between the three organisations on matters of mutual interest. For example: -



For the most part, relationships between the three organisations are reported to be cordial and productive.

Opportunities for Greater Co-ordination and Alignment

Nevertheless, in the context of common objectives, there are a number of areas in which opportunity exists for greater co-ordination and alignment between BIA, BRANZ Inc and SNZ.

1. Strategic Planning

At the time this review commenced, BIA, BRANZ Inc and SNZ had not discussed or agreed a sense of common purpose, articulated a set of common objectives or defined the manner in which each organisation could or should contribute to the work of the others. Given this, it is not surprising that the three organisations have been working largely to independent agendas (i.e. to objectives defined by their respective governance bodies), with separate plans and with largely informal channels of communication and processes for working together in place.

Looking forward, BIA has expressed the wish that it be consulted earlier both by BRANZ Inc and SNZ on their strategic directions and the level of priority that should be attached to items in their programmes of work. Indeed, BIA's view is that ideally it would be involved in the setting of agendas, rather than being approached for comment (as one of a number of stakeholders) once plans are largely in place.

For their part, BRANZ Inc and SNZ have identified that they require early notice of proposed technical developments and other needs that BIA may have if these are to be considered in the development of their strategic plans and in decisions regarding programmes of work. Equally, co-ordination between BRANZ Inc and SNZ on matters concerning Code-related research and standards development will rely on early communication regarding each party's plans.

These expectations of greater co-ordination and alignment between agencies in turn suggest that more formal channels of communication will be required, together with agreement on inter-agency planning processes and protocols.

(It is worth noting that the issue of strategic alignment between BIA, BRANZ Inc and SNZ was also raised by a number of the external stakeholders consulted as part of this review. BIA, BRANZ Inc and SNZ are seen to have a leadership role within the building sector and there is an expectation that the three agencies will speak with a coherent voice on matters of common interest. This implies alignment on current issues, as well as a common view and a plan to deal with the long-term interests, opportunities and challenges facing the building sector).

2. Implementation of Programmes of Work

Similarly, and in the context of common objectives, there is scope for greater co-ordination at a tactical level. This is most apparent in regard to: -

- The provision of education and information to building sector groups (via seminars, presentations and publications, for example, and including the production of guidance documents).
- Initiation and completion of research relevant to the Building Code.

For example, BIA, BRANZ Inc and SNZ all have a mandate to communicate with a number of audiences within the building sector, via a range of mediums and on a variety of subjects relevant to their particular spheres of interest. However, where subject matter is seen as 'similar' or related (e.g. setting out regulations/standards/research regarding the use of a particular building material or application of a building system), discussions with external stakeholders point to some confusion regarding the status of the information provided and the relative importance that should be attached to information or advice delivered by one party versus another.

In these situations, co-ordination on both message and delivery could be expected to result in greater understanding and ultimately a better building outcome.

In the research arena, co-ordination on planning and implementation should lead to earlier identification of research gaps, greater efficiency and more cost-effective delivery of research data to support the needs of all parties.

Other Issues for Resolution

This review has also identified some specific issues which require attention and/or resolution between the three parties to support collaborative work in areas of common interest. These relate to: -

- Ownership of Intellectual Property
- Funding of Building Code-related research and standards
- Standards Methodology
- Separation of BRANZ Inc and BRANZ Limited.

These issues are discussed further below.

1. Ownership of Intellectual Property

All parties have raised concerns about ownership of Intellectual Property and the actual/potential implications for working relationships between the three agencies.

Between BRANZ Inc and SNZ, the IP issue relates primarily to BRANZ Inc's wholly owned subsidiary, BRANZ Limited. In the past, BRANZ Limited and Standards New Zealand have had difficulty agreeing ownership of IP in situations where research undertaken by BRANZ Limited is used in the development or review of a building sector standard or where information contained in SNZ documents is subsequently used in BRANZ publications (without acknowledgement of SNZ or approval by SNZ).

While BRANZ Limited has the right to talk about its research publicly, an issue arises where a Standards Committee combines that research with its own experience and skills and significantly adds to the IP. In this situation, SNZ considers the IP to be its own, and not BRANZ's.

BRANZ Limited and SNZ have now reached an agreement regarding IP rights. This agreement considers: -

- The need to provide the market with accurate information that is not duplicated unnecessarily.
- The need for courtesy by BRANZ Limited in regard to use of SNZ's IP (and vice versa).
- The need for BRANZ Limited and SNZ to provide each other with information on forthcoming publications.
- Possible sharing of marketing and distribution channels.
- Development and implementation of joint commercial projects.

The two organisations have agreed to work together in partnership and in a spirit of commercial collaboration which allows both organisations to make a margin on commercial activities. At the same time, BRANZ Limited and SNZ acknowledge that both organisations may continue to produce products that may target the same markets.

Specifically, BRANZ Limited is undertaking the following: -

- Provide SNZ with the opportunity to comment on BRANZ Technical Bulletins and major publications (books). The remaining BRANZ publications (including BUILD Magazine, Guideline and Builders Mate Bulletins) do not go out for external comment as part of a routine production process.
- Make reference to Standards as and where applicable to ensure the technical accuracy and usefulness of BRANZ articles, without notifying SNZ.
- Continue to reference Standards in the body of articles in the correct way, without notifying SNZ.
- In the event that a table/graphic or a large piece of text needs to be extracted from a Standard, BRANZ will make contact with SNZ and provide a copy for approval.
- Ensure all BRANZ publications carrying reference to a Standard include somewhere the notation: *"Any standard referred to within this publication can be purchased from Standards New Zealand by phoning 0800 735-656 or by visiting www.standards.co.nz."*
- Provide the CEO of SNZ with a complementary copy of all publications released.

Between BIA and SNZ, the IP issue centres on the distribution of Standards by BIA and particularly those Standards referenced in the Building Code. Looking ahead, BIA has indicated it may wish to distribute (at least some) Standards free of charge - e.g. via the web or seminars - where these are cited in the Building Code. SNZ notes that its funding model allows for this but that the revenue it might otherwise have gained through sales of Standards documents would need to be recouped in some other way.

Further discussion will be required between BIA and SNZ to reach resolution on a way forward.

2. Funding of Building Code-Related Research and Standards

BIA receives funding via the Building Levy and contracts BRANZ Limited (and others) to complete research it requires for the purposes of Code design and development. However, BIA is of the view that its interests correspond with those of the wider industry and that, for this reason, (at least) a proportion of its research requirements should be funded via the Building Research Levy administered by BRANZ Inc.

In response, BRANZ Inc notes that funds made available via the Building Research Levy are for research and other activities contributing to 'industry good'. Thus while BRANZ Inc has no specific obligation to fund Code-related research (including research to support development of Standards), it will consider BIA's proposals rigorously and with elevated priority where research outputs are likely to have positive benefits for the industry as a whole.

BIA also directs funding to the review and development of Standards (to be) referenced in the Building Code. However, in regard to the review and development of such Standards, BIA has also voiced concerns on funding. In this respect, BIA would like to see a transparent pricing model which fairly reflects the contribution of the building sector (relative to other industry sectors) over the medium- to long-term.

While this review has highlighted differences of opinion on questions of funding, it is apparent that further work is required to reach a resolution satisfactory to all parties. This is a matter for further discussion between agency CEOs.

3. Standards Methodology

Although generally considered a thorough process, concerns were expressed (by the parties to this review and by the wider industry) about the methodology employed in the development and review of building sector standards. Specifically, whether: -

- a. because of funding constraints and the reliance on time given freely, standards committees could be prone to undue influence by (commercial) groups with a vested interest in a certain outcome;
- b. because the Standards model relies on achieving consensus, the standards process can be relied upon to deliver a useful (or any) result in a timely manner.

While the BIA was not alone in voicing these questions, these issues do pose a particular problem for the regulator: i.e. to be useful in support of the Building Code, BIA needs to have confidence that standards are robust and independently developed. It also requires some outcome from the Standards development process.

SNZ notes that while there are times when its process is delayed due to requirements for consensus, it is very rare for the process to conclude without achieving a result.

Similarly, SNZ acknowledges that funding issues can dictate which standards are developed but that the funder does not dictate the content of a standard. SNZ maintains that its process involves

extensive consultation (including public feedback), is transparent, independent, and internationally recognised. Furthermore, because it is based on achieving consensus, the process results in a solution which is both objective and widely accepted (and therefore more likely to be complied with).

SNZ also acknowledges that sometimes BIA and its own technical committees do not agree, and accepts that BIA's need to consider specific issues (such as regulatory cost/benefit impact) may result in only part of the Standard being cited.

During the review, it was identified there may also be opportunity to improve efficiencies in consultation on development of sector standards and changes to the Building Code. While SNZ notes that separate processes are required by legislation, it is agreed there may nevertheless be opportunities for greater co-ordination.

These matters have been the subject of recent discussions between BIA and SNZ, with both agencies committed to reaching a satisfactory resolution moving forward.

4. Separation of BRANZ Inc and BRANZ Limited

External stakeholders voiced confusion about the separation of BRANZ Inc and BRANZ Limited and questioned the extent to which the objectives of the two organisations: -

- a. are transparent;
- b. are independent;
- c. are compatible; and therefore
- d. can comfortably co-exist.

Similar questions were raised by representatives of BIA and SNZ.

Whether or not these concerns have foundation, there is certainly a view that some tension exists between the commercial and non-commercial objectives and activities of BRANZ Inc/Limited and that this is creating confusion.

BRANZ Inc acknowledges these concerns exist and is moving to establish a clearer separation between BRANZ Inc (for industry good and, through that, for public good) and BRANZ Limited (commercial). A recent Board meeting between the two entities resulted in the following decisions to be implemented as soon as possible:

- The appointment of separate Chief Executives for the two entities.
- A redefinition of the roles of Association staff – focused on closer industry contact, determination of new and ongoing industry knowledge needs and investment of the available funds to meet these industry needs.
- Consideration of a name change for one of the entities.

Under the organisation's new model, BRANZ Limited may be one of a number of contractors appointed by BRANZ Inc to conduct research funded via the Building Research Levy.

The organisation anticipates these changes will deliver a greater level of transparency in regard to the objectives and operations of the two entities.

Future Working Relationships

It is clear that BIA, BRANZ Inc and Standards New Zealand will all have significant roles to play in the implementation of the new Building Bill. However, smooth implementation of the new legislation will hinge on the three organisations working together in a constructive and co-operative fashion and will undoubtedly demand some changes in current thinking and behaviour.

New Expectations

In the new environment, it is widely anticipated that:

- ... The **regulator** will exert greater authority. It will be proactive in anticipating issues and leading resolution, setting (and communicating) rules for the building sector and, via a range of mechanisms - including the provision of information, education, certification and accreditation programmes - driving appropriate behaviours across the industry as a whole.
- ... **Standards bodies** will develop an increasing number of standards and associated documentation. They may help to facilitate compliance by promoting the minimum standards required under clauses of the new Building Code and higher-than-minimum levels through promotion of best practice.
- ... **Research providers** will assist in underpinning Code development with rigorous research and provision of technical guidance to the regulator. They may also help to facilitate compliance via the delivery of technical guidance to other industry stakeholders.

These expectations suggest a working model in which the **regulator** has the primary responsibility for Building Code development and all activities required to facilitate compliance with the Code (including appropriate education programmes, the provision of other information on matters of minimum standards and technical guidance, accreditation and certification programmes).

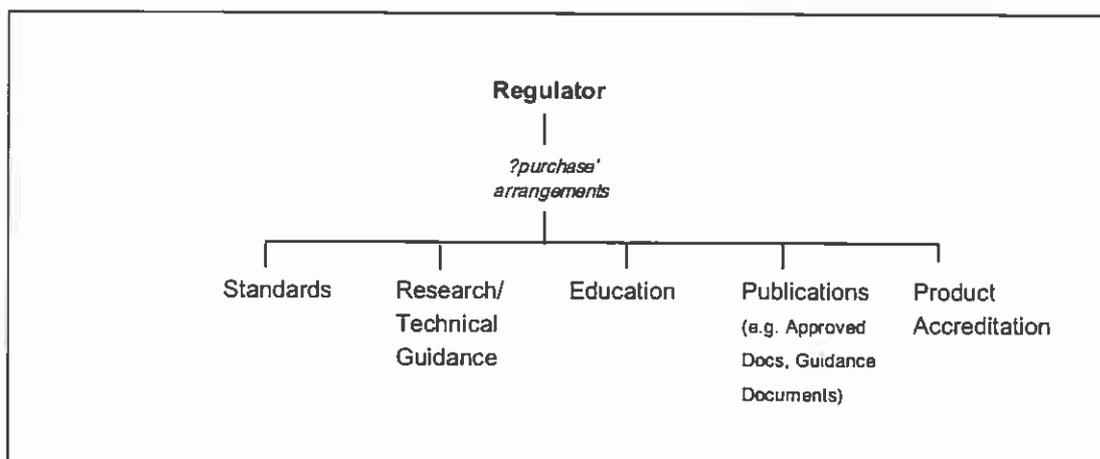
In particular, the regulator will define the areas in which it requires specific research and/or technical guidance to support Code development. The regulator will also define what standards are required in support of the Building Code.

Working Models

These expectations suggest at least two working models for the future. (Note that these models are not given as final solutions, nor are they mutually exclusive, but rather are put forward as frameworks to stimulate discussion and resolution on a way forward).

Model 1 – Transactional Relationship

A first option is a purely transactional relationship between regulator, standards bodies, research providers and others, with the regulator 'purchasing' (or otherwise influencing) delivery of services from third parties to satisfy its requirements in respect of Code development and compliance.



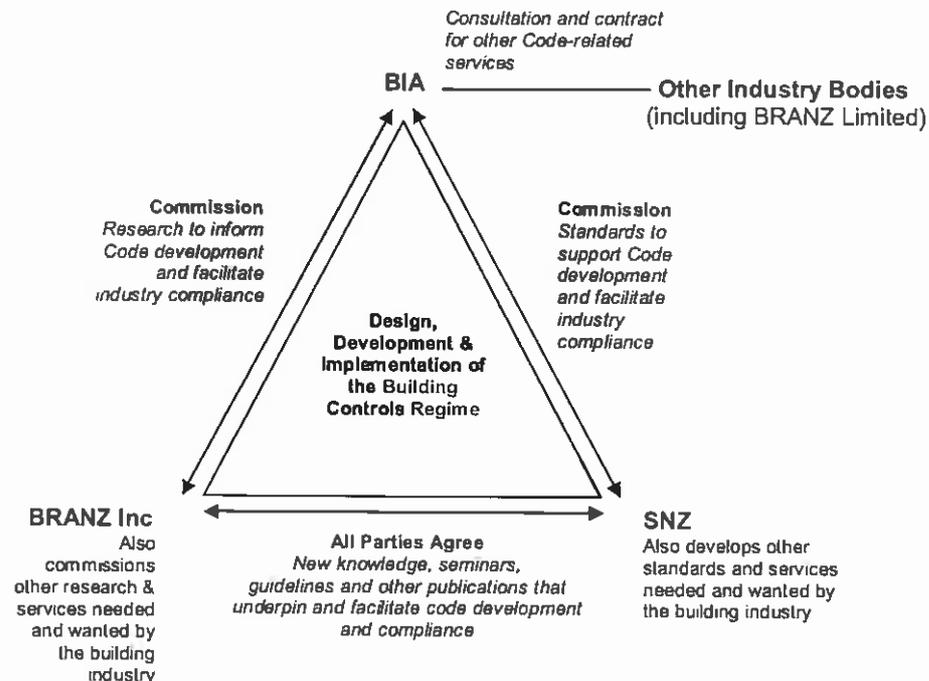
This could include, for example, the 'purchase' of educational functions and publications (including Approved Documents and Guidance Documents) from SNZ, BRANZ or any other third party - by way of paid contract or 'endorsement' where a commercial return could be expected by the party concerned.

This model would require that appropriate funding be channelled through the regulator for the purchase of the services required.

In this scenario, the purchaser would require rights to use of Intellectual Property - a matter that could be negotiated as part of the contract price. With BIA setting the relevant code-related research and standards agendas, and contracting the services it requires, this model would also assist issues of co-ordination.

Model 2 – Strategic Alliance

A second model might involve BIA taking the lead role but consulting closely with BRANZ Inc, Standards New Zealand and other key industry bodies on issues relevant to Code development and compliance – in effect, a form of 'strategic alliance' between the BIA, BRANZ Inc and SNZ on matters pertaining to the design, development and implementation of the Building Controls Regime.



In this model, BIA would have clear leadership on matters of regulation, with BRANZ Inc proactively supporting BIA on matters of Code-related research and Standards New Zealand on matters of Code-related industry standards. This would require close co-operation and consultation on all matters of common interest between the three parties, including education and the transfer of information.

At the same time, it is anticipated that BIA would maintain its relationship with BRANZ Limited and others to ensure it had access to the wide range of expertise it required.

Preferred Working Model

Model 2 (a form of 'strategic alliance' on matters relating to the design, development and implementation of the Building Controls Regime) was identified as the working model preferred for further development by the three parties to this review.

This model was seen to: -

- Best harness the **industry experience** and **technical expertise** that sits within organisations such as SNZ and BRANZ.
- Make best use of the **networks** established by BRANZ and SNZ which, in turn, give access to **industry intelligence**.
- Ensure that the design, development and implementation of the Building Code are based on a sound understanding of the needs and expectations of all industry stakeholders.

Working Principles

At the same time, it was noted that a successful strategic alliance would require BIA, BRANZ Inc and SNZ to work to an agreed set of principles. These might include: -

- BIA will clearly articulate its plans with respect to Code development (e.g. the specific clauses to be reviewed or developed) and the requirements it will have for research, guidance materials, education programmes, and standards development. (It is noted that in the future - through its advisory groups, its greater emphasis on the monitoring of TAs and through an increased technical capacity - BIA expects to be in a better position to gather and synthesise industry intelligence, which in turn will help to inform industry research priorities, than it has been in the past.)
- Such plans will be shared with BRANZ Inc and SNZ at the earliest possible time (i.e. co-ordinated planning will take place with a long-term horizon in mind).
- Both BRANZ Inc and Standards New Zealand will recognise the particular needs of BIA when planning their own programmes of work (i.e. as regulator and a major industry stakeholder, BIA will have a significant input to research and standards agendas). In the case of research funded by the Building Research Levy, potential projects identified by BIA (Code- and/or standards-related) will be assessed alongside others according to criteria which address industry good.
- BRANZ Inc will recognise the congruence of industry good and Code-related research in setting priorities for expenditure of the Building Research Levy.
- Simultaneous to the above, BIA will promote its needs as being 'industry needs' through other industry forums.
- Where any shortfall exists in funding Code-related research, BIA will work with BRANZ Inc, Standards New Zealand and others to identify and secure alternative sources of funding. Ideally, this would be undertaken in the context of a well-considered long-term programme of research for the industry.

- In developing standards, Standards New Zealand will satisfy BIA's requirements for: cost-effectiveness, timeliness, consideration of consumer issues and consideration of leading building construction practice (rather than simply codifying current practice). In this respect, it is anticipated that SNZ will continue to work with BIA to ensure that appropriate funding models are in place and that the most appropriate people are serving on standards committees.

Working Practices

Separate to agreement on the principles outlined above, but in recognition of the need for greater alignment and co-ordination of effort in the areas of education/information transfer and research, the following working practices were agreed between the BIA, BRANZ Inc and SNZ.

Education/Information Transfer

It was noted that all three organisations had an interest in education and the transfer of information to groups within the building sector – whether focused on the Building Code and 'minimum practice' or on matters of 'good' or 'best' practice. To avert confusion and duplication, it was agreed that: -

- While each party is responsible for its own messages and relationships with its own constituents, in certain circumstances education concerning Code documents, Standards and/or Guidance Documents may be most effective if well-integrated. This requires co-ordination and a long-term planning horizon. It also requires that all agencies deliver to agreed dates for seminars and/or the publication of information. Having a regularly updated industry training/information plan is essential. *(BRANZ to lead development, working with SNZ and BIA)*
- Each party has some audiences in common, and others to which it may speak alone. Each party also has a range of vehicles through which it may alert industry participants to new training opportunities and new information (e.g. via websites, BUILD, BIA News and Standards magazine). A co-ordinated plan and joint promotional efforts will assist in avoiding duplication of effort and raise the potential audiences for all. *(BIA to lead development, working with BRANZ and SNZ)*
- Individual cost and revenue considerations should not be the key drivers when it comes to the delivery of appropriate education, training and information to industry sector groups. There is a need to find a cost/revenue sharing arrangement that is of benefit to all parties. *(SNZ to investigate, liaising with BRANZ and BIA)*
- Education and activities to transfer information are best founded on an understanding of industry needs. There is a need to integrate and enhance the evaluation systems used by the three organisations. *(BRANZ Inc to investigate, liaising with SNZ and BIA)*

Research

All agencies also have an interest in research, particularly as it relates to the Building Code and development of Code-related standards. To ensure best use of available funding and to maximise the value to all, the following points were agreed: -

- Quarterly meetings to discuss agency needs and align programmes of work. *(BIA to organise)*
- Co-ordination of input and feedback from industry on research needs; e.g. via BRANZ 'Needs Survey' (April) and industry forum (October). In addition, processes for capturing research gaps identified by Standards working committees and advisory groups. *(BRANZ Inc to confirm opportunities to involve BIA and SNZ in its review processes; SNZ to develop a formal process through which to capture information gaps – feedback to be provided at quarterly meetings)*
- A collective approach to securing further funding for building research (e.g. via FoRST and others). *(BRANZ Inc to coordinate)*
- BRANZ Inc to ensure greater awareness of its research agenda and changes as they occur. *(BRANZ Inc and BRANZ Limited to consider publishing the research agenda online)*
- BIA to consider publishing a 'Regulator's Research Agenda'.
- It was agreed that a long-term strategic vision for industry and public good research is required. A question remains around who should lead this initiative although BRANZ Inc has offered to co-ordinate.

Other Working Practices

Further work is required to ensure the principles agreed between the parties to this review are substantiated in practice, both within and between the three organisations. Specifically, confirmation is required of processes around collective strategic planning.

Appendices

Background Reference Material

Document Title	Supplied by	Received
Building Bill	BIA	Yes - online
Building Regulations	BIA	Yes - online
New Zealand Building Code	www.legislation.co.nz	Yes - online
Building Research Levy Act	www.legislation.co.nz	Yes - online
Standards Act	www.legislation.co.nz	Yes - online
Hunn Report	BIA	Yes
Building Bill: Regulatory Impact & Compliance Cost Statement Aug 2003	MED	Yes - online
Social & Economic Impact Study of Changes to Building Regulations – PriceWaterhouseCoopers, May 2003	MED	Yes - online
Proposed Changes to the Building Act - brochure	MED	Yes
Government Response to the Government Administration Select Committee on Inquiry into the Weathertightness of Buildings in NZ – June 2003	MED	Yes - online
Discussion Document: Better Regulation of the Building Industry in New Zealand: Discussing the Options	MED	Yes - online
Building Regulations Submissions Summary – May 2003	MED	Yes - online
Building Act 1991 & Proposed Changes – May 2003	MED	Yes - online
Standards NZ Annual Summary 2003	Standards NZ	Yes
Standards Council Annual Report 2003	Standards NZ	Yes
BIA Technical Operations Plan 2003/04	BIA	Yes
BIA Statement of Intent 2003-2004	BIA	Yes
BIA News Aug, Sept, Oct, Nov and Dec	BIA	Yes-
BIA Annual Report 2003	BIA	Yes - online
BRANZ Research Planning Process	BRANZ	Yes
BRANZ Accredited Advisors	BRANZ	Yes
BRANZ Education Programme information	BRANZ	Yes
Levy Effectiveness Criteria For Publication & Education Investment	BRANZ	Yes
Establishing Industry Needs process & procedures	BRANZ	Yes
BRANZ 2003 Annual Review	BRANZ	Yes
BRANZ Research Programme 2003-2004	BRANZ	Yes
An Overview of BRANZ Limited	BRANZ	Yes
Build magazine Oct/Nov and Dec/Jan	BRANZ	Yes
Relevant information on websites: www.med.govt.nz www.branz.co.nz www.bia.govt.nz www.standards.co.nz		

Stakeholders Consulted

Representatives of the following organisations were consulted as part of this review.

- Building Industry Authority (BIA)
- BRANZ Inc.
- BRANZ Limited
- Ministry of Economic Development (MED)
- Standards New Zealand (SNZ)
- Building & Construction Industry Training Organisation (BCITO)
- Master Builders Federation
- Institute of Professional Engineers NZ (IPENZ)
- New Zealand Institute of Architects (NZIA)
- Construction Industry Council
- Wellington City Council
- Local Government New Zealand
- Consumers' Institute
- Foundation for Research, Science & Technology (FoRST)

Appendix E Case study: Electrical sector

How the electrical sector works with the Standards New Zealand

The introduction of requirements for RCDs into New Zealand
‘a programme of change’

Background

Standards New Zealand works effectively with the electrical sector in developing programmes, prioritising, monitoring and reviewing impacts and outcomes - also reviewing regulatory system adjustment.

An example of the processes in supporting the electrical sector develop solutions is seen in this case study, which follows the introduction of new requirements for residual-current devices (RCDs) into New Zealand during the past decade.

What is an RCD?

A residual-current device (RCD) is an electrical wiring device that disconnects a circuit whenever it detects that the electric current is not balanced between the energised conductor and the return neutral conductor.

The start of the process

In 2000, New Zealand published a joint Standard with Australia for electrical installations (AS/NZS 3000:2000 *Wiring rules*).

The new joint Standard was voluntary, with requirements drawn from the best information and evidence base out of New Zealand and Australia, and the international knowledge base involved in developing IEC 60364 *Electrical installations of buildings* and BS 7671:1992 *Requirements for electrical installations*.

Prior to this New Zealand had used NZS 3000:1997 *Electrical installations – Buildings, structures and premises*.

The key players

- **Electrical Coordinating Committees (ECCs)** – there are five committees, managed by Standards New Zealand. Each year they make recommendations to the NZESC.
- **New Zealand Electrical Standards Committee (NZESC)** – this is managed by Standards New Zealand. It gets advice from the ECCs, and the regulator, Energy Safety. Its role is to coordinate and prioritise projects, and establish an annual work programme.

The majority of electrical projects NZESC undertakes are joint Standards, managed by Standards Australia – therefore a much lower amount of New Zealand input and resource are required.

- **Energy Safety** – the New Zealand sector regulator, which has a member sitting on all of the above six committees.

A ‘rolling programme’ of coordination, research, planning and development

In April 2002, the NZESC, in conjunction with advice from one of the ECC’s (the Installations Electrical Coordinating Committee), considered the mandatory requirement for RCDs in residential buildings.

Energy Safety (the sector regulator) sought advice from the ESC and IEC (International ElectroTechnical Commission), then carried out a cost benefit analysis to guide its preliminary assessment of the impacts.

A programme of change was set which defined future changes to AS/NZS 3000 and the electricity regulations.

Standard amendments

In April 2002, amendments were made to AS/NZS 3000:2000 to add New Zealand requirements relating to RCDs.

AS/NZS 3000 status becomes mandatory

Concurrently, in 2002, Electricity Regulations 1997 were amended and a new Regulation 69A introduced which enacted AS/NZS 3000 into the regulations with clauses 1.6-1.10 as high level mandatory requirements, and most of the rest of AS/NZS 3000 as a means of compliance.

These changes introduced the requirement for RCDs in domestic installations such as motels and residential areas.

Simplifying delivery of requirements

In 2007, AS/NZS 3000 was revised, with a focus on reorganising the Standard’s content. It was separated into two parts. Part 1 related to high level mandatory requirements, with Part 2 providing a more prescriptive means of compliance with Part 1.

RCDs were included in Part 2, which, for some installations (e.g. domestic) were mandated by the regulator. Electrical designers have the option of designing a Part 1 or Part 2 solution.

Updating the citation

The Electricity Regulations 1997 were superseded by the Electricity (Safety) Regulations 2010, and this included updating the referencing of the newer AS/NZS 3000:2007. The regulations mandated that certain designs, including domestic installations, must be to Part 2 making the use of RCDs in domestic installations mandatory.

Learning from this process:

- It supports industry’s opportunity to participate in developing solutions
- The default position is to use the ‘international’ first. If not appropriate, then a ‘joint Australia/New Zealand’ approach. If that is not appropriate, then a New

- Zealand specific Standard can be developed. This approach reduces resource and work demand.
- Requirements are set having drawn on the best information and evidence available at the time – from other Standards bodies around the world, and from New Zealand's gateway to the international Standards bodies and organisations such as IEC.
 - There are opportunities for sector monitoring, review and providing recommendations for any further adjustment to the system.
 - There is the overview by a 'Codes Board' – in this case, the NZESC – which can coordinate and prioritise activity, having drawn on recommendations and analysis from advisory committees.
 - There is a clear programme for all stakeholders: regulator, researchers and standardiser.
 - The preliminary assessment of impacts and risk assessment is guided by sector expertise.
 - Changes can be undertaken quickly. For instance, where the risk is considered high and timing urgent, New Zealand only amendments to Joint Standards can be developed.

For example, in July 2011, a New Zealand only amendment (Amendment A) to AS/NZS 3000:2007 was commenced to adjust requirements for RCDs in schools. This was published September 2011, just a three month process. This amendment is being incorporated into the Standard completely with the forthcoming Amendment 2.

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