



# DISCUSSION PAPER: ROLES AND RESPONSIBILITIES

## SUBMISSION TO CANTERBURY EARTHQUAKES ROYAL COMMISSION

13 AUGUST 2012

### INTRODUCTION

This is a joint submission made by the Institution of Professional Engineers New Zealand (IPENZ) and the Association of Consulting Engineers New Zealand (ACENZ). Collectively we represent the views of New Zealand's professional engineers and consulting engineering firms. Background information about IPENZ and ACENZ is presented in Appendix 2 of this submission.

IPENZ acts as a professional body and is the Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002. In this submission the term "IPENZ" is used to designate the views of the professional body and where reference is made to performance of the functions of the Registration Authority the term "Registration Authority" is used.

### CONSULTATION

A draft version of this submission was provided to IPENZ Members and ACENZ to review. Comments from IPENZ Members and ACENZ are incorporated into this version of the submission.

IPENZ shared draft submissions with the New Zealand Geotechnical Society and the Construction Industry Council. IPENZ supports the New Zealand Geotechnical Society submission and the Construction Industry Council submission.

### EXECUTIVE SUMMARY

IPENZ and ACENZ (we) believe a number of changes are needed to improve the building and construction sector in New Zealand.

A regulatory framework is needed to ensure all policy decisions are made at national level as building safety is a matter of national concern. These policy decisions should, for example, consider whether protection of life is the sole focus or whether maintenance of building serviceability is also important after an earthquake. Once decisions are made, they should inform legislation and regulation and flow through into the Building Code, Standards and guidance documents.

The consenting process needs to be more risk-based with the extent of checking and skill being proportional to the risk posed. In our opinion risk-based consenting should require an appropriate quality assurance process commensurate with the risk, with complex commercial structures being the most risky. For complex commercial work extensive expertise may be required and we recommend consolidation towards a centralised consenting agency.

A new Standards' development model is needed to differentiate between Standards that set a minimum requirement (regulation-driven Standards) and Standards that are voluntary and business-enabling. Within such a model, regulation-driven Standards should be prepared in a different manner to business-enabling voluntary Standards for which an industry consensus is appropriate.

We also recommend the policy requirements (strengthening standard and timeframe) for earthquake prone buildings be investigated using cost benefit analysis and consideration of value judgements regarding heritage and tolerable risk. A more stringent approach is needed to ensure earthquake prone buildings are identified promptly and that sufficiently strict standards and timeframes are in place for remedial action, where required. Building warrants of fitness and compulsory labelling should also be investigated.

## **SUBMISSION**

In this submission IPENZ and ACENZ (we) present answers to the questions posed in the Discussion Paper, supported by rationale where appropriate.

### **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?**

The Canterbury earthquakes have highlighted five problems with the existing building regulatory framework which we think are sufficiently significant to require remedying. These are:

- The regulatory framework does not enable seamless transition from the response to the recovery phase. The transition from working under the Civil Defence Emergency Management Act 2002 to the Building Act 2004 did not go smoothly following the February 22 earthquake and lifting of the subsequent state of national emergency and the reasons for this should be investigated so the problem can be remedied. We have discussed this issue in more detail in our submission on [Building Management After Earthquakes](#) dated 27 July 2012.
- The performance of BCAs. We question whether all BCAs have the skills needed to assess and consent complex commercial building work. We comment further on this issue later in this submission.
- The need to differentiate between building types. Residential buildings typically pose less risk to life than commercial buildings. The regulatory framework needs to acknowledge this by being more explicitly risk-based.
- The need for better management of earthquake prone buildings. The policy requirement (strengthening standard and timeframe) needs to be investigated using cost benefit analysis and consideration of value judgements regarding heritage and tolerable risk. A more stringent approach is needed to ensure earthquake prone buildings are identified promptly. In addition, a stricter standard and timeframe is required to ensure appropriate follow-up action is taken. Such follow-up action should be prioritised based on a hierarchy of tolerable risk. Information on earthquake prone buildings should also be available to the public as they have a right to know the risk these buildings pose.

- The need for consideration of building serviceability within the building policy framework. Building serviceability (whereby buildings protect life and are able to be used after an event) is important, to enable businesses to restart and for individuals to resume some form of normality. Building serviceability is considered in some Standards but this is not the right place for such a policy decision. We thus recommend consideration be given to whether building serviceability should also be a goal of the regulatory framework and be reflected more explicitly in national policy.

## **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 following are needed to resolve the issues identified above:

- Clarity of roles to ensure the transition from response to recovery is improved.
- Consolidation of BCAs towards a national consenting authority to ensure it has and can maintain the required capability.
- An improved regulatory framework that is risk-based and acknowledges society’s needs and their right to know about the likely performance of buildings they may enter.
- Identification of earthquake prone buildings, with a more stringent standard and timeframe for strengthening buildings, and a tiered approach to enable prioritisation according to the potential risk buildings pose.
- More explicit consideration of building serviceability in the policy framework. It is considered in some Standards, but this is not the right place for such policy settings.

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

We continue to believe the model proposed would improve the regulatory framework. However, we wish to provide clarification in relation to the proposal.

In referring to a national policy statement on building and construction we were not suggesting the need for a National Policy Statement under the Resource Management Act 1991. Rather, we were stating that all policy decisions should be made at national level by the appropriate agency as building performance is a matter of national concern. These policy decisions should, for example, consider whether protection of life is the sole focus or whether maintenance of building serviceability is also important. These policy decisions should then inform legislation and regulation and flow through into the Building Code, Standards and guidance documents. The developers of technical Standards or compliance documents should not be placed in a position where they are allowed to make policy decisions through gaps in the overarching policy framework.

A model with policy decisions made nationally would enable separation of policy decisions from the technical means to give effect to the policies (how to comply). This is needed to ensure all policies are sufficiently comprehensive so compliance documents do not become policy by default. Compliance documents need to be developed by experts, with suitability to meet the regulatory need being a critical factor.

A new Standards development model is needed to differentiate between Standards that set a minimum requirement (regulation-driven Standards) and Standards that

are voluntary and business-enabling. Within such a model, regulation-driven Standards should be prepared in a different manner to voluntary Standards for which an industry consensus is appropriate.

IPENZ recently submitted to the Ministry of Business, Innovation and Employment in relation to 2012 Standards and Conformance Infrastructure Review. [That submission](#) outlines our proposed Standards development model in more detail and is attached as Appendix 1 to this submission for reference.

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

There are three significant issues associated with the Building Amendment Bills.

The first is the lack of separation of design and building work. In our [submission on Building Amendment Bill \(No. 4\)](#) we noted the Bill proposes defining a “building contractor” which would include designers by virtue of the definition of “building work” under the Building Act. We recommend separate definitions of design work and building work be developed and applied to ensure clarity and that policy outcomes sought through the Bill are realised.

The second issue is construction monitoring. Construction monitoring is an important class of work which can help ensure quality control. Construction monitoring is the observation of the work with the purpose of providing “a professional opinion to the owner and/or building consent authority as to whether the observed element of the completed work complies with the building consent and any amendments”. Construction monitoring should thus be more strongly encouraged as it is a principal means of ensuring a design is correctly implemented. We also recommend construction monitoring be defined to ensure it is not confused with supervision which involves direction or control of a building contractor.

The third issue is the implementation of risk-based consenting. As stated in IPENZ’s [submission of 9 December 2011 to the Royal Commission](#), we believe a risk-based approach is most appropriate for building and construction, with the extent of checking and skill being proportional to the risk posed. This aligns with the Government’s decisions relating to “risk-based consenting” as set out on page 10 of the Discussion Paper. We recommend “risk-based consenting” be defined to ensure there is clarity as to the interpretation of this term, its scope and implications. Risk-based consenting requires an appropriate quality assurance process commensurate with the risk, with complex commercial structures being the most risky. The risk-based system should also make better use of existing tools, such as Project Information Memoranda to ensure discussions about design begin as early in the process as possible.

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

Confusion arises when parts of Standards are cited while users incorrectly believe the whole Standard has been cited. We recommend a new Standards’ development model be implemented to avoid this situation. See the submission in Appendix 1 for more detail.

We also believe the public’s understanding can be an issue. The public can interpret “Standards” to have a degree of compulsion associated with them. We recommend clearer terminology be used and information be provided to the public to avoid confusion.

**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?**

Better quality information is needed. This information, particularly where it is prescribed, should be funded and come from the central agency, with distribution through all relevant channels including BCAs.

**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?**

There is room to improve the way the Building Act and Resource Management Act work together. For example, both Acts deal with natural hazards but have different requirements – different definitions, grounds for declining consents, and grounds for setting conditions on consents. This misalignment needs to be addressed.

In terms of delivery of functions, we see the two Acts having different and complementary purposes. The Resource Management Act regulates what can be built, and the Building Act sets out the technical standards to be met. In practice lodging for both consents at the same time can be an advantage because the shape and form finally approved under the RMA might change, with consequences for the building design. However, the evaluation under each Act is effectively different so other than ease of lodgement there is no fundamental overlap of process.

Lodging and decision-making on resource consents is still a primary duty of local authorities because it considers local community values. However, building standards are set nationally; given this, the regulator and decision maker could be centralised or localised, and it need not be a role of local authorities. Other policy areas use other models. For example, occupational health and safety, under the Health and Safety in Employment Act 1992, uses a centralised regulator with local delivery arms.

The current BCA model requires local authorities to have skills which, particularly for complex high risk buildings, they may be ill-sized to retain. This model is not working. We believe New Zealand should move to a centralised BCA, potentially with regional offices for residential and “low risk” work.

## **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?**

We believe the current building regulatory framework has the following weaknesses that need addressing:

- It lacks a sufficient policy requirement for building serviceability following an earthquake. Building serviceability is considered in some Standards but this is not the right place for such a policy decision. Analysis should be undertaken to determine whether building serviceability should be included in policy settings more explicitly.
- It lacks clarity for the transition from the response phase (under the Civil Defence Emergency Management Act 2002) to the recovery phase (under the Building Act 2004). There needs to be a clear transition time and clarity of

duties to replace placards issued under CDEM with notices under the Building Act. Please refer to the [IPENZ-ACENZ submission in relation to the Discussion Paper: Building Management After Earthquakes](#) for more detail.

- It needs a stringent approach to ensure earthquake prone buildings are identified promptly and that sufficiently strict standards and timeframes are in place for remedial action, where required.

## **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?**

Standards are important and should be the normal form of compliance, unless the matter is so small that a Standard is not necessary, or one in which rapid technological change is occurring, in which case another compliance document would be more appropriate.

We favour a new Standards' development model which recognises when a Standard sets a minimum required and is regulation-driven. For regulation-driven Standards, the approval method needs to incorporate a regulatory suitability test involving the central regulator while also incorporating input from the Standards agency and industry experts to ensure the Standard is practical to implement.

The Standards' development process has served New Zealand well since 1935, and until 1991 Standards were the dominant form of building regulation (through model by-laws). However, in the last two decades there have been issues that have limited the delivery of Standards, including funding, access to expertise and issues with interfacing with legislation/regulation. We recommend these issues be fixed. See Appendix 1 for more detail.

The Standards New Zealand model of Standards' development is an internationally accepted system which gives New Zealand access to overseas expertise and its Standards international credibility. It is important to retain these advantages.

## **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?**

As stated above, we recommend the Standards' development model be replaced so the regulator works better with professional networks to ensure regulation-ready Standards are prepared and implemented.

Education in the use of regulatory Standards can then be rolled out through the regulator and professional networks working collaboratively.

## **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 central regulator should have the policy responsibility for developing the building regulatory policy framework, including deciding the level of risk that can be tolerated. The central building regulator and the designated central civil defence and emergency management agency need to have a clear protocol for events affecting buildings. The Ministry of Civil Defence and Emergency Management co-ordinates

the activities of a number of other agencies and a clear and well-designed interface is required to ensure clear lines of responsibility and communication.

**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?**

As indicated above we recommend a new model for Standards' development and incorporation in regulation be developed. Regulatory driven Standards may need to be developed by a different process to voluntary business-enabling Standards as a consensus process is unlikely to be appropriate.

The Building and Housing Group of the Ministry of Business, Innovation and Employment needs to take a strong leadership role in setting the programme for review or the development of building related Standards. The Group should scope Standards that are required, fund Standards (as they are public good Standards) and oversee the process of developing Standards.

We believe Standards should be approved before publications, so they can be applied as soon as they are published.

Priority areas for new or improved Standards are methodologies for assessment of damaged buildings and the assessment of the residual strength of buildings.

We also support the New Zealand Geotechnical Society's suggestions of areas where guidance is needed and refer the Royal Commission to the Society's submission.

## **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.**

Verification methods and alternative solutions, in particular require the regulator and decision maker to be particularly competent and have significant skills. Few BCAs can reasonably be expected to hold all of the necessary skill required and therefore many BCAs outsource.

The BCA accreditation process does not appear to have led to consistency. When the seven Auckland local authorities combined it was apparent that one consent application would have received different treatment depending on which of the previous local authorities it was lodged with.

We support a move towards a centralised BCA. Such a model would enable the BCA to build up and retain the required skills to fulfil its role.

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

We believe the private sector requires the following:

- Access to, and use of, Chartered Professional Engineers
- Access to good advice and information
- Awareness of new technology so it can be adopted early
- Comprehensive peer review, with a fee compatible with the amount of work to be done and the expertise of the reviewer, and reinforced by the BCA encouraging sufficiently detailed design and quality assurance
- Access to Standards at a reasonable cost
- Free access to acceptable solutions and verification methods, including cited 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?**

As the central regulator, the Building and Housing Group has an important role in setting the policy settings and leading the building and construction sector. It is thus vital that the Building and Housing Group has sufficient engineering expertise to enable it to make informed and appropriate decisions.

We understand the Building and Housing Group already has a Chief Architect whose role is to provide leadership on issues about buildings' architectural functional performance.

We suggest the roles of the Chief Engineer and Chief Architect be reviewed to ensure they are consistent and co-ordinated to deliver effective building regulation.

## **RESOURCING STANDARDS DEVELOPMENT**

### **1. What should the role of Standards New Zealand be and how should it be funded?**

We believe Standards New Zealand should have the following roles to:

- Prepare regulatory Standards identified by the regulator necessary to support effective regulation. These Standards should be funded by central government and be developed through a consultative process. For example, construction-related regulation-driven Standards should be funded by departmental funds of the relevant government agency.
- Facilitate the development of business-enabling Standards. These Standards should be funded by industry levies/the industry sector and be developed through a consensus process.

There should be easy access to those Standards needed for compliance with building regulations. The building regulations are available free of charge and we believe the regulatory Standards should also be available free of charge.



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

The key issue resulting from a reliance on Standards New Zealand is whether it has the resources and the methodology to develop and maintain regulation-ready Standards. We believe Standards New Zealand needs to be given clear priorities and support from the central building regulator, including sufficient funding to fulfil its role. It is appropriate that the Government maintains a single agency with generic Standards' development expertise. It is also appropriate that departments are required to work with that agency to get Standards developed for inclusion in regulation. This should include the review of the existing portfolio of Standards to ensure they are up to date.

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

Reliance on volunteers for regulatory Standards is not appropriate – there is a need for predictability of timescale and payment is needed to achieve this. However, for voluntary business-enabling Standards such reliance is appropriate.

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

If a Standard is intended to be part of building regulation then its development should be funded from departmental funds. For business-enabling Standards industry levies/industry sector should be the primary source of funding.

## **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?**

A process which differentiates between regulatory Standards and business-enabling Standards would enable all of the government agencies to use the regulatory approach with confidence. Therefore the use of Standards would increase. Such use should be paid for from departmental budgets.

## **OBTAINING REGULATORY APPROVAL FOR BUILDING WORK**

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

For complex commercial work extensive expertise may be required and the level of expertise needed is often beyond that of the average BCA. This has led to inconsistency in practice.

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

Other than the simplicity of lodging a building consent and a resource management consent application together, there is no intrinsic reason why territorial authorities have to regulate the technical quality of buildings.

In some cases, the control by multiple territorial authorities results in the system being onerous. For example, the requirement for individuals to register with each territorial authority as a producer statement author results in duplication. IPENZ has advocated for maximum use of existing national registers of qualified persons from which BCAs would draw. This would make the system more streamlined and efficient.

**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?**

We support a move towards a centralised authority, potentially with regional offices. This is consistent with the substantive consistency of the Building Code between regions. Amalgamation will enable in-house knowledge to build up and increase consistency across the country. This is particularly important for complex commercial work for which BCAs may need more expertise than residential work.

While we prefer amalgamation towards a centralised authority, we note that building control will still require local input as there are a number of site-specific aspects that must be considered in approving construction. These include site topography, foundation conditions, wind and snow conditions and the configuration of water, wastewater and stormwater services. To ensure appropriate consideration of site-specific aspects, we recommend local input take place via staff in the regional branches of the national BCA.

**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?**

For commercial work, the focus needs to be on risk-based consenting. Such a risk-based system must include a review of design and construction monitoring and would be managed most ideally through a centralised BCA. IPENZ and ACENZ are keen to work with the Building and Housing Group to achieve a workable and robust system.

## **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?**

As noted in its submission of 9 December 2011 IPENZ supports the NZCIC model in its entirety. The way occupational regulation interacts with building controls is important. Forms of evidence such as workmanship statements from builders should be regarded as different to producer statements from engineers. Separation of building work from design work and construction monitoring in the Building Act would assist. A key to the NZCIC model is recognition of three occupational groups – designers/architects, engineers and constructors who need to be regulated differently. In each group there will be different levels of competence with greater competence normally arising from the acquisition of greater knowledge, and greater skill development. However, each regulatory approval does not necessarily require the same level of competence of the person(s) undertaking the work within each group. This is why we strongly advocate for multi-tiered systems for occupational regulation, allowing efficient mapping of the regulatory requirement to the necessary competence level. With robust national systems operating the regulator should be compelled to use these systems rather than create their own occupational regulation system.

**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?**

Engineering producer statements have a valid role for verification methods and alternative solutions and this role needs formalising. We also note that BCAs need

to be consistent in the application of producer statements to ensure there is certainty.

Producer statements provide a mechanism of satisfying BCAs that the design engineer has applied the competency expected to ensure the design, when constructed, will satisfy the Building Code. They are a valid form of evidence and are a professional opinion. This needs to be acknowledged with clear separation between producer statements from engineers (at whatever competence level), those from architects/designers and those from constructors. Engineering producer statements already distinguish between design, design review and construction monitoring.

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

Producer statements were part of the regulatory framework between 1991 and 2004. We believe producer statements should be a recognised part of the regulatory framework again, particularly for safety-critical elements. For other elements, producer statements might be voluntary.

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

The extent and complexity of peer review should be set under a risk-based framework. The greater the uncertainty in the design and therefore the higher level of engineering judgement, the greater the need for peer review. A highly competent BCA can do more of the review in-house than a lesser one, so the requirement for external peer review varies with the competence of the BCA. The costs of peer review are inevitably met by the applicant for the building consent.

### **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?**

There should be clear guidelines on the role of the peer review, along with clarity as to its scope and requirements. The peer review guidelines previously published by IPENZ are currently being considered. We are anticipating the new guidelines will be jointly branded with the Building and Housing Group and will be informed by their risk-based consenting process. Following this, we expect the guidelines to provide greater clarity on a peer review's scope. The question of fair price is also important as the fee must be compatible with the amount of work to be done and the reviewer's expertise.

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

For robustness and demonstrable independence we suggest peer reviewers be selected by the BCA, rather than by the designer. Alternatively, the peer reviewers could be selected by the applicant from a list provided by the BCA.

The scope of peer review should be specified by a nationally agreed risk framework and operate with the principle that the reviewer should be at least as competent as the persons doing the design work. Enforcement of this requirement could occur through the BCA reporting poor quality reviews to the relevant occupational regulator.

We note that building officials receiving peer review reports do not always have the competence to comprehend the issues set out in the reports and whether the designer's revisions have resolved the concerns of the reviewer. We believe a centralised BCA would be able to attract and retain the required skills to remedy this situation.

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

We suggest auditing or random audits be considered as part of quality assurance process. An audit may be justified as part of the process in all cases for complex commercial consenting.

## **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?**

We believe there are significant gaps in the information available on building performance. The public has a right to know the strength of a building before they enter it, particularly if it is earthquake prone. Making information available enables the public (not just building occupants) to be more informed when making personal decisions (such as whether to enter a building). Nevertheless, we consider the implementation of compulsory public labelling and/or publicly accessible databases requires investigation to ensure the benefits justify the costs.

### **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?**

We would support the investigation of a broader building warrant of fitness for buildings (either all buildings or just earthquake prone buildings) to check for building deterioration if there is proven public benefit. Such a scheme would enable better understanding of the state of New Zealand's earthquake prone building stock and progress towards reducing the risks buildings pose. It would also assist identification of buildings with latent issues arising from undetected errors.

Such a scheme should use a nationally prescribed form or format to ensure the schemes were consistent across the country and could be easily understood. BCAs should hold records of the warrants of fitness or labels so there is a central repository of this information.

## **CONCLUSION**

IPENZ and ACENZ are available to provide further comment if required. For more information please contact:

Dr Andrew Cleland  
Chief Executive, IPENZ  
Phone 04 474 8935

or

Dr Nicki Crauford  
Deputy Chief Executive, IPENZ  
Phone 04 474 8932

Email [CE@ipenz.org.nz](mailto:CE@ipenz.org.nz)

Email [DepCE@ipenz.org.nz](mailto:DepCE@ipenz.org.nz)

## **APPENDIX 1**

# **2012 STANDARDS AND CONFORMANCE INFRASTRUCTURE REVIEW**

**SUBMISSION TO THE MINISTRY OF BUSINESS, INNOVATION AND EMPLOYMENT**

**31 JULY 2012**

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## **BACKGROUND**

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 13,000 Members, including a cross-section from engineering students, to practising engineers, to senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

## **EXECUTIVE SUMMARY**

IPENZ believes a new Standards development model is needed to recognise there are two types of Standards: those that set a minimum mandatory requirement and thereby support regulation and those that are voluntary but developed to be business-enabling. The latter type of Standards can enable market access, and are developed by an industry to assist its business interests. Establishment of this dual model would provide clarity as to who funds Standards.

The current consensus process is suitable for the development of business-enabling Standards. We also support the use of trans-Tasman and international Standards or adaptations of them in New Zealand where the evidence points to their usefulness.

For regulation-driven Standards, the development process needs to be funded by the relevant regulator, draw on the expertise of the government's only Standards agency, use expertise from industry, but also ensure that the requirements of the regulator are met.

We note the importance of systematic review of the existing portfolio of Standards. This is vital to ensure dated Standards are withdrawn and new strategically important Standards are developed in a timely fashion. The process of identifying problems and opportunities with the existing portfolio of Standards should be publicly funded.

## **SUBMISSION**

In this submission IPENZ has reformulated the questions in the input document to focus on the engineering industries. These questions and responses to them are presented below.

## GENERAL USE OF STANDARDS

### How are national standards used in the engineering sector?

Standards are fundamental to the practice of engineering. Standards New Zealand was created in the aftermath of the 1931 Napier earthquake and engineering Standards are still the dominant type in existence.

Some Standards are business-enabling and are driven by industry. These Standards give businesses the ability to develop products or gain market access for their products. Examples include:

- Standards for the dimensions of products such as screw threads which result in mechanical parts being interchangeable.
- Standards for the voltage and frequency of electric power supplies which enables manufacturers and buyers of electrical appliances to know the appliances will work wherever they are plugged in.
- Standards for the frequencies and polarisations of radio and television transmissions which make it possible for listeners and viewers to tune into a programme of their choice and know that it will be free from interference.

Other Standards are regulation-driven, with an example being the Standards for calculation of wind, snow, and earthquake loads on buildings. There is further standardising of the way the loads interact with the timber, steel, or concrete parts of structures. These Standards contribute to demonstrating compliance with the building code.

IPENZ regards knowledge of the Standards applicable to an engineer's area of practice to be an essential element of professional competence. Engineering practice is largely driven by codified knowledge. Codified knowledge typically starts in loose form and moves up a hierarchy from guidance note to code of practice and sometimes to a Standard. Because formal Standards take some time to develop and have reasonable longevity, they are most applicable in areas in which innovation is not rapid or disruptive, and in regulatory systems that are highly prescribed.

While national Standards are vital, international standards are also important. International standards fulfil a number of roles – they open up international markets for New Zealand manufacturers and can protect New Zealand consumers (both household and industrial) from poor quality overseas goods.

IPENZ believes overseas experience should be heeded. Many overseas standards, notably those from Australia, the professional engineering bodies in America, Europe, and standards from the International Standards Organisation (ISO) can also be regarded as appropriate for application in New Zealand where the professional community of engineers in the field collectively regard them as representing good practice for New Zealand to follow. However, not all will necessarily become New Zealand Standards.

## NATIONAL STANDARDS

### What does IPENZ find most valuable about the national standards development process?

IPENZ believes that in general the development process works adequately for business enabling Standards. The process enables new knowledge to be included in a revised Standard which is beneficial.

This development process is valuable for engineers as it allows individuals with appropriate knowledge and experience to contribute to it directly.

IPENZ is currently represented on 14 committees working on particular Standards, and on 23 other committees overseeing of a group of Standards. IPENZ Members contribute greatly to the development of Standards, often doing some of this work in their own time, and some in company time with their employers' agreement. IPENZ reimburses travel and occasionally accommodation expenses incurred by its nominees on standards committees but does not pay fees or otherwise reimburse its nominees for the time spent on Standards work.

What works less well is the process of developing regulatory-driven Standards. This is discussed in further detail later in this submission.

### **USE OF INTERNATIONAL STANDARDS**

#### **To what extent do IPENZ Members use international and/or trans-Tasman standards, and to what extent are specific New Zealand standards needed?**

As stated previously, international standards are important and both international and trans-Tasman standards are widely used in New Zealand. Application of international standards in New Zealand presents a number of advantages:

- The use of international standards can open up markets for New Zealand manufacturers if the standards are recognised in the market countries.
- International standards can protect consumers (both household and industrial) when they purchase goods from overseas.
- Use of international standards can increase efficiency as New Zealand does not need to reinvent the wheel creating Standards.

Given these advantages, IPENZ generally supports the principle of developing Standards (particularly those that are business-enabling) by first attempting to use an international standard.

IPENZ believes it is essential for industry to be involved in situations where international standards are amended to customise them to New Zealand's conditions. This is important to ensure the Standards are well understood and practical to implement, thereby ensuring compliance.

It is also important for New Zealand to be involved in international standard development. This involvement helps reduce the amount of customising of international standards needed.

While the use of international standards is supported, New Zealand has some unique characteristics (natural, cultural and legislative) which must be recognised. For example, because New Zealand's earthquake hazard is more severe than Australia's, each country uses specific parts of the AS/NZS 1170 set. Thus, international standards are not sufficient on their own and the need for some specific New Zealand Standards remains.

## **SPECIFIC NEW ZEALAND STANDARDS**

### **What issues (if any) do IPENZ Members face in using national standards or the standards development process?**

The largest issue associated with the use of Standards occurs when a slight variation of a New Zealand Standard is developed by a regulator and inserted into regulation. This creates confusion, and lowers the likelihood of correct application of the approved regulated Standard. We do not consider it appropriate for a regulator to create a slightly modified variant to a Standard. Rather, the development process should be changed.

The development process for regulation-driven Standards should be publicly funded, and organised so the expertise of industry experts is considered alongside the policy and regulatory basis for the Standard. This will ensure the Standard is practical for the industry to implement, as well as meeting the needs of the regulator. The central Standards organisation needs to develop a methodology for developing regulation-driven Standards, and government regulators need to be required to use this process. A single point of Standards development expertise mandated by government would be efficient.

The dual approach we suggest would see business-enabling Standards largely funded by those who would gain from the Standard with government funds meeting the costs of regulation-driven Standards.

There is also an issue in regard to dating of Standards and setting the programme for development of new Standards under a fully user pays model. Without public funding to undertake systematic review of the existing portfolio, Standards that are dated may not be withdrawn, and if user communities are not able to provide funding then new strategically important Standards may not be developed. The system needs to address both review and fore-sighting through public funding. That is not to say the public purse will fund the development process, but it will fund the strategic work recognising both problems and opportunities.

IPENZ is aware of some practical issues within the development process. Some Standards are too intricate and with the need to achieve consensus this can mean that alternatives are inserted in a Standard, thereby resulting in inconsistency, ambiguity, and misinterpretation.

Committee makeup is also important. A balanced committee must be sought and there must be strong protocols in place to ensure resolution of issues (such as those that arise when a committee is dominated by an organisation, where there are strongly polarised views or where business interests get in the way). It is also important that processes are in place to enable timely creation of new Standards and timely incorporation of new inventions into Standards.

## **CONCLUSION**

IPENZ is available to provide further comment if required. For more information please contact:

Nicki Crauford  
Deputy Chief Executive  
IPENZ Engineers New Zealand  
04 474 8932  
[DepCE@ipenz.org.nz](mailto:DepCE@ipenz.org.nz)



## **APPENDIX 2**

### **BACKGROUND TO IPENZ**

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 13,000 Members, including a cross-section from engineering students, to practising engineers, to senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

### **BACKGROUND TO ACENZ**

The Association of Consulting Engineers of New Zealand (ACENZ) represents the consulting industry for engineering and related professionals that work in the built and natural environment. The organisation has more than 190 member firms which represent about \$1.5 billion a year in combined turnover, and that collectively employ in excess of 9,400 engineers, architects and supporting staff.