



Weathertightness of Buildings in New Zealand

Report of the Government Administration Committee's inquiry into the weathertightness of buildings in New Zealand

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Inquiry into the Weathertightness of Buildings in New Zealand

Summary of Recommendations to the Government

We make the following recommendations to the Government about:

The extent of weathertightness problem

1 Research is undertaken by the Government to determine the full extent and impact of the weathertightness of buildings problem in New Zealand.

Building materials and products – untreated timber and monolithic cladding

2 A study be undertaken to examine the full ramifications of introducing the requirement that all building elements should have a lifespan of 50 years.

3 As a matter of urgency, ‘whole system’ research be undertaken on external wall cladding systems. Such research needs to include investigation of whether paints and silicon sealants should be allowed to be the primary means of weathersealing systems.

4 Any research, or assessment of, into external wall cladding systems must also include investigation of the health effects of using treated timbers in framing and the problems associated with the ventilation of buildings.

5 Given that any research into external wall cladding systems will take time, an immediate appraisal of monolithic cladding systems needs to be undertaken. Such an appraisal needs to be made within a ‘whole system’ context that takes into account the reality of the conditions found on building sites.

6 If any research into external wall cladding systems reveals deficiencies in any product or material, then the Building Industry Authority must take decisive action to require manufacturers to make modifications to the materials, the detailing, or to the construction system into which they are incorporated.

7 Product manufacturers are to be made more accountable for their products by encouraging their participation in any ‘whole system’ product appraisal process.

8 As a matter of urgency, the Building Industry Authority conclude its revision of the current timber treatment provision within the Approved Solution B2/AS1 and determine new standards for the use of treated timber, especially for external framing. Any new standards must take into account associated health and environmental issues.

9 Where it is considered necessary to treat timber to an H3 treatment standard, that serious consideration be given to alternatives. The Building Industry Authority and BRANZ need to do further research into alternatives.

The level of detail provided with building consent applications

10 A code of practice be developed that sets out and defines the documentation requirements for building consent applications, in general, and for alternative solutions. We expect such a code to consider issues other than weathertightness.

11 Such a code of practice must require the submission by applicants of a greater level of detail than is currently required, in regard to critical areas of a building, and where a design is complex, technically challenging, untested, or intricate. Information must be project-specific and require a minimum of interpretation by on-site operatives.

12 As a matter of urgency, the Building Industry Authority produce, and distribute to all territorial authorities, standard sets of documents showing acceptable 'best practice' for construction information for different classes of building. We do not recommend any amendment to section 33(2) of the Building Act.

13 The practice of stating in building consent applications that materials and systems covered by the building code are 'to be advised' or to be substituted with 'equivalent' materials/products/systems after building consent is given, be more rigorously controlled.

14 The Building Industry Authority give priority to the production of comprehensive, clear, simple-to-use information, and guidance on building control matters.

15 As part of the Building Industry Authority's accreditation process, 'whole system' testing and proving in New Zealand conditions of building products and systems be required. This may require mandatory accreditation of certain categories of products or systems.

16 Each sector of the construction industry is encouraged to take responsibility for developing a code of practice to provide for written and graphical methods that show how to comply with the relevant clauses of the building code.

17 The prescribed period for consideration of a building consent application be reviewed to allow for the thorough scrutiny of applications.

18 Clear standards be developed for the level of proof required for vetting agencies to be 'satisfied on reasonable grounds' that a particular product or system satisfies the requirements of the building code.

19 Given the complexity and supercritical nature of some recently introduced products and systems, and their utilization in a deskilled industry context, we consider greater levels of education and knowledge about such systems amongst vetting agencies should be demanded.

20 There be a mandatory obligation when making an alternative solution application for manufacturers to produce comprehensive testing data, technical information, and generic, true-to-scale drawings in relation to the major products and systems to be used.

21 Consideration be given to the appropriateness of a fixed fee regime for building consents set by the Building Industry Authority or other schemes such as a maximum fee regime.

22 Clear guidelines be established that create a 'level playing field' between territorial authorities and building certifiers by clearly defining the requirements for consents documentation to provide consistency and prevent quality undercutting in fee-bidding situations.

23 A review of the territorial authorities' consents processing regime be undertaken to ensure that building departments of territorial authorities are adequately resourced to be able to properly carry out their consents appraisal responsibilities. However, we expect any review of the consents processing regime fee structure to be tempered by the need to maintain a 'level playing field' environment between territorial authorities and building certifiers.

The building inspection regime

24 As a matter of urgency, a code of practice be developed that prescribes what the building inspection regime is required to accomplish. To ensure the focus of 'inspection' is on compliance, rather than the quantity of inspections carried out, any criteria established must be performance based.

25 Any code of practice for building inspection needs to include:

- Clear guidelines that establish a 'level playing field' by clearly defining numbers, timing and nature or rigour of each inspection to provide consistency and prevent quality undercutting in fee-bidding situations.
- Checklists and risk classification systems that might help to provide clarity in terms of expectations.
- Identification of building constructions that are more at risk of failure and therefore need a greater number of, and more detailed inspections.
- Responsibility and liability of territorial authority and private building certifier to the owner.

26 To ensure consistently good standards of work by the builder, we consider that where defective work is discovered the territorial authority be allowed to charge the builder for re-inspection.

27 Consideration is given to imposing penalties on the builder for non-compliance with the building code and poor standards of work.

28 A review of the territorial authorities' inspection regime fee structure be undertaken to ensure that building departments of territorial authorities are properly resourced to be able to carry out any increased building inspection responsibilities. However, we expect any review of the inspection regime fee structure to be tempered by the need to maintain a 'level playing field' environment between territorial authorities and private building certifiers.

29 As a matter of urgency, new criteria that prescribe what the code compliance certificate is required to accomplish be developed. Such criteria must outline the responsibilities of territorial authorities under the Housing Improvement Regulations 1947

(under the Health Act 1956) and emphasis be given to the current requirements of the Building Act 1991 to protect people (their health and safety) and the environment.

30 A mechanism be created that will make it mandatory for a code compliance certificate to be issued within a certain period from the time the building is completed. Consideration of this matter needs to include investigating the appropriateness of requiring a mandatory occupancy certificate in addition to, or instead of a code compliance certificate.

31 All building inspectors and private building certifiers must be qualified and certified. We expect a commitment from territorial authorities and the Building Industry Authority to ongoing professional development.

32 The responsibilities of the territorial authority and building certifier be clearly defined to owners of buildings.

33 More stringent auditing of quality standards is required by both the Building Industry Authority and territorial authorities. We expect the Building Industry Authority to develop an audit regime to ensure compliance by the territorial authorities with the code compliance certificate process and, for established buildings, the land information memoranda process.

34 The public is educated on the actual purpose and level of certainty provided by building inspector and building certifier inspections; the issuing of the code compliance certificate, and the responsibilities of the owner.

35 The duties and responsibilities of the owner and builder, in respect to compliance with the building code and the building consent also need to be prescribed.

The split responsibility between territorial authorities and building certifiers

36 The majority of members consider the Government must decide whether to retain or dispense with private building certifiers. If building certifiers were dispensed with, then no further action is needed. If they are retained then the majority of members ask that consideration be given to recommendations 37 to 40.

37 The Building Act 1991 be amended to provide that building certifiers can only hand over a 'problem' project to a territorial authority by application to, and with the approval of the Building Industry Authority.

38 The Building Act 1991 is amended so that building certifiers are made responsible for the work they undertake from processing a building consent application through to issuing the code compliance certificate.

39 Clear lines of responsibility and liability are established for all the identified conditions of regulatory and service provision within the building certification process.

40 Mechanisms be put in place to remove the possibility that applications for building code compliance, rejected by one organisation, can be accepted by another.

41 The primacy of building inspectors and building certifiers as regulators enforcing compliance with the Building Act 1991 and its regulations be reasserted.

The decline in level of skills within the building industry

42 People employed in the building industry may need to be either reskilled or upskilled to ensure they are competent to carry out the tasks they undertake.

43 The majority considers that a building industry registration and competency regime should be developed.

44 Consideration is given to requiring critical building work to be supervised by building practitioners, such as builders, architects, engineers, designers, or draughtspersons, who have demonstrated competence. We expect owner-builders to also be covered by this requirement.

45 The apprenticeship scheme and other training be expanded to align with current and perceived future needs of the building industry.

46 Major development projects should be supervised by a registered clerk of works, or similar. Government policy in this area needs to differentiate between homeowners and major construction projects.

Health issues

47 A survey be undertaken by the Ministry of Health, in conjunction with Local Government New Zealand and the Building Industry Authority, to determine the extent of the stachybotrys problem.

48 As an immediate step, a Government's 'assistance package' be made available to those homeowners already identified as suffering from associated health problems because of a rotting building.

49 Research be undertaken to develop effective, durable, and realistic remedial techniques for mould and rot.

50 Before approving new products, BRANZ to investigate the effectiveness of the product in terms of resisting the development of mould and rot in buildings, and associated health effects.

51 The Building Industry Authority, with advice from the Ministry of Health, BRANZ and the Institute of Building Surveyors, develop industry-wide standards and guidelines for the vetting and licensing of investigators that undertake remedial work.

52 The Ministry of Health undertakes the public education and monitoring of the associated health problems that can be caused by defective buildings.

53 The Occupational Health and Safety Service of the Department of Labour immediately distribute the Workplace Health Bulletin entitled *Risks to Health from Mould and Fungi* to all known builders and affected building owners.

54 Research is undertaken as part of the Government's review of the Building Act 1991 of the wider health issues connected to building in New Zealand.

Consumer protection measures

55 The majority considers that key industry players such as building developers, speculators, and builders be required to post a bond to protect consumers from those key industry players that deliberately liquidate their company to avoid liability **or** that a mandatory insurance scheme be developed that would protect and cover consumers from unscrupulous industry players.

56 Consideration be given to establishing a consumer protection agency within the Building Industry Authority to vet consumer claims relating to building disputes brought before it and, if it assessed that these claims were well founded, it was able to pursue them through the courts.

57 A developer be required to provide a new owner with a warranty that guarantees that the building complies with the building code in all respects, and a mechanism is developed that would see the contractual obligations that existed between designers and builders and the developer automatically transferred to the new owner.

Building Research Association of New Zealand

58 Given that BRANZ is perceived throughout the building industry as the primary source of independent technical advice, we consider such advice should be freely and widely available to all sectors of the building industry.

59 Consideration be given to ways in which the BRANZ appraisal function could be independently verified to avoid criticism that it is subject to commercial influence, and thus maintain public confidence in this important function.

Building Industry Authority

60 Sections 12 and 24 of the Building Act 1991 are reviewed to provide that the Building Industry Authority have overall responsibility for the administration of the Act. Review of these sections of the Act must also clarify lines of accountability between the Building Industry Authority and territorial authorities.

61 The Building Industry Authority take immediate steps, and to have an ongoing responsibility, to address problems between territorial authorities and private building certifiers.

62 The Building Industry Authority develops and implements a monitoring regime to maintain quality standards within the building industry.

Review of Building Act 1991

63 The extended review of the Building Act 1991 be completed as a matter of urgency so amendment of the Act can be effected.

Part 1 Introduction

This inquiry arose because some New Zealand homeowners have suffered significant problems caused by leaky buildings. Some of these people presented their stories to us which provided the committee with an insight into the difficulties individuals have faced as a result of owning and living in a leaking, and sometimes, rotting home. These people gave us their views as to the cause of their problems and have made some worthwhile suggestions for resolving the weathertightness problems that now confront existing and future homeowners. While the findings of this inquiry will not directly resolve the individual issues of the homeowners who made submissions to this inquiry, the issues they raised have identified areas within New Zealand's building control regime that require immediate review.

Weathertightness failures

Weathertightness failures seem to have occurred mainly in the Auckland region with a scattering in other parts of the country. We were unable to define the extent of the weathertightness problems, as there is insufficient information available. However, the evidence we did receive, particularly the Auckland Cladding Survey 2000, suggests that the problem is substantial, at least in the Auckland area. Weathertightness problems appear to be mainly associated with multi-unit speculative housing and very complex high cost single-family homes. 'Acceptable' cladding systems of several different types and manufacture seem to be a common factor, but we consider the research undertaken to determine the extent of the problem is inconclusive.¹

In attempting to address New Zealand's weathertightness of buildings, we note that the Building Industry Authority appointed a Weathertightness Overview Group to inquire into the weathertightness of buildings in New Zealand and the concerns about leaking and rotting houses. The overview group presented its first report to the authority in early September 2002, and the final section 3 part in late November 2002 (the Hunn Report).

While the Hunn Report may be considered as authoritative, there is still a strong call for research to be undertaken to determine the extent of the problem, and to establish the best course of technical remedial action thereby ensuring that we do not continue to build technically defective buildings, and providing solutions to many other related matters, such as associated health problems. We understand that a Weathertight Buildings Steering Group that was formed by the Building Research Association of New Zealand (BRANZ) in August 2001 was to carry out research in this area. Perhaps the research being carried out on behalf of the steering group will address some of these issues, but this information is not available to us, and these matters remain obscure.

We therefore recommend to the Government that:

1 Research is undertaken by the Government to determine the full extent and impact of the weathertightness of buildings problem in New Zealand.

¹ Auckland Cladding Survey 2000.

Regulation of building work in New Zealand

The Building Act² established a performance-based framework for the regulation of building work in New Zealand. It is performance-based in the sense that the Act attempts to set out purposes and objectives and, at the same time, allow for flexibility in how these are to be achieved. The Act replaced a prescriptive regime that was made up of a plethora of requirements under other Acts, regulations, standards and bylaws.

The main purposes of the Act are to protect people (their health and safety) and the environment.³ Principles to achieve these purposes relate to:

- safeguarding people from possible injury, illness, or loss of amenity
- providing protection to limit the extent and effects of the spread of fire
- provisions in buildings used for the storage or processing of significant quantities of hazardous substances
- the protection of other property from physical damage resulting from the construction, use, and demolition of any building
- providing means of access for people with disabilities
- facilitating the efficient use of energy.

Another important purpose of the Building Act is to provide a suitable interface between building controls and resource management and other relevant controls. We understand the Act is aligned with the Resource Management Act 1991 that came into effect from 1 October 1991.

The Building Regulations 1992 are a key element of the framework. The Regulations came into force on 1 July 1992, and contain the Building Code within the First Schedule. The code is a national performance-based one that comprises 35 technical clauses that are reviewed on a cyclic basis every five years. However, a review of a specific clause may occur earlier than five years where there is sufficient reason. Section 7 of the Act requires all building work to comply with the building code.

Building Industry Authority

The Act also established the Building Industry Authority. The authority is a Crown agency that is funded from a levy on building consents, which is collected by territorial authorities and user charges for services relating to determinations, accreditations, and building certifier approvals. One of the main functions of the authority, *inter alia*, is to approve documents for use in establishing compliance with the provisions of the building code. These documents are referred to as Approved Documents and are non-mandatory, but are written by the authority to assist people to comply with the building code.

These approved documents fall into two classes – acceptable solutions and verification methods. Acceptable solutions are prescriptive ways of achieving compliance with the

² The Building Act was enacted in 1991 and came into force in February 1992.

³ Refer to section 6 of Building Act.

building code. Verification methods are calculations or tests that can be used to establish compliance with the code. We note these documents often cite other documents such as standards published by Standards New Zealand as another means of compliance with the performance requirements of the building code. The Building Industry Authority tells us that approved documents go through a rigorous approval process before it approves them. Approved documents do not require ministerial approval.

Other key functions of the Building Industry Authority are to approve building certifiers that perform similar functions to territorial authorities in regard to the certification and inspection of building work, to grant accreditation of building products and processes, to determine matters of doubt in relation to building control, and to undertake reviews of the operation of territorial authorities and building certifiers in relation to their functions under the Act.

Territorial authorities

Territorial authorities enforce compliance with the building code by receiving, considering and approving or refusing applications for building consents; issuing project information memoranda, code compliance certificates and compliance schedules; and determining whether an application for waiver or modification of the building code, or any document for use in establishing compliance with the provision of the building code (Alternative Solutions) should be granted or refused. Private building certifiers can provide a competitive alternative to territorial authorities in some of their functions.

Key clauses of building code

The principal building code clauses in relation to cladding of buildings are B2 'Durability' and E2 'External Moisture'. The key performance requirements of clauses B2 and E2 in relation to claddings are that any solution from the documents offered with a building consent application must be accepted by the territorial authority or building certifier. The current acceptable solution under the building code clause E2 contains prescriptive methods for the weatherboard, brick veneer, and traditional stucco cladding systems.

Positive developments

We note that the Weathertightness Overview Group found evidence that the Building Act has allowed innovation in building designs, materials and construction solutions. The Overview Group also found that the emphasis the Act has given to issues relating to safety, health, fire protection, facilities for disabled persons, and energy efficiency has produced good results.

We also wish to acknowledge that the performance-based regime established by the Act has facilitated some positive developments within the building industry. In particular we note that the performance-based national building code has encouraged flexibility in building techniques and design and has provided the opportunity for innovative thinking on building matters. This approach has allowed for alternative ways to achieve building standards required by the code, with the onus remaining on building designers and constructors to prove that the results are consistent with the required standards, and that these standards are capable of being maintained throughout the life of a building. We do not therefore support a return to an overly prescriptive regime, which existed prior to the current Building Act.

Systemic failure

However, with the benefit of hindsight, we note the comments of the Overview Group that the Act's performance-based regulatory framework has suffered through not having a backstop of prescriptive 'how-to' standards. Without such a backstop, industry participants such as designers and builders have been allowed to develop their own approaches to meeting the performance criteria of the Act, particularly in regard to building design and construction. We see this as an unintended result of the legislation.

Changes to the building control regime brought about by the Building Act, and too greater reliance of market competitiveness have, we believe, contributed to the systemic failure of the building industry. It is a systemic failure in the sense that, although the framework for the regulation of building work in New Zealand may, in part, be adequately designed, a wide range of participants have not complied with it. The system of procedural and technical controls also appears, in part, to be faulty in design and therefore inadequate in preventing undesirable outcomes such as the leaky buildings crisis. While the extent of the weathertightness problem still needs to be determined, it has uncovered the systemic failure of the building industry. The current weathertightness issues highlighted in the Hunn Report appear to be the most visible signs of an industry that needs a 'shake-up'.

Standards

It is a concern that there is currently a widespread perception that standards have fallen right across the building industry, and that immediate action needs to be taken to improve them. There is also an unprecedented level of agreement, and a general acceptance, that tighter regulation is required. There is also an acceptance of the fact that there will be social and financial costs associated with achieving higher standards and more rigorous regulation of the industry.

In attempting to move forward, we consider the first step must be to accept and establish good practice as the minimum acceptable standard. While we understand the Act aims to minimise compliance costs by not creating unnecessary administrative and other transaction costs⁴, it has seen 'cost driven minimal standards' emerge as the norm instead of establishing 'best practices' as the preferred option. We note the comments of Hon George Hawkins, Minister of Internal Affairs that this has been at the expense of the whole-of-life costs of buildings.

We accept there is a need to restore quality standards within the building industry. There is also a need to redress the balance desirable in regulation.

Skilled labour force within building industry

Perhaps the single most important factor in resurrecting the building industry is to require everyone working in the industry to accept responsibility for his or her own actions. A skilled labour force, with something to lose and with more confidence in its own abilities, and those of fellow workers, is much more likely to produce good quality work and be willing to be held accountable. Registered electricians, plumbers, drainlayers and gas fitters are currently held accountable under a process of self-certification.

⁴ Submission 222, p. 7.

However, while establishing a highly skilled workforce within the industry may solve many of the points we raise under the inquiry's terms of reference in the long term, it must not be viewed as a universal panacea. We consider that firm action needs to be taken in the short term to address the issues we raise under the terms of reference for this inquiry.

Approach to inquiry

We consider this inquiry has provided a unique opportunity for Parliament to consider the current shortcomings of the building industry and facilitate a 'restorative' process whereby the Building Act places sufficient emphasis on the basic human need for shelter and protection from the elements.⁵

Terms of reference

The inquiry was initiated by calling for public submissions based on the terms of reference. The terms of reference were to inquire into:

- The level of detail to be provided with building consent applications in respect of weathertightness, including flashings, with a view to determining what constitutes a reasonable level of detail.
- The inspection regime as part of the code of compliance certification process, with specific reference to weathertightness aspects, and with a view to developing guidelines for inspection.
- The split responsibility of building certifiers and territorial authorities in respect of building consents, inspection and code compliance certification, and reports on any issue caused by that split responsibility.
- The decline in the level of skills in the building sector, with a view to determining the cause for that decline, and to investigating how that decline might be reversed.
- The health issues that may arise from leaking buildings.
- Any other matters that the committee may consider appropriate, on the basis of information received.

We received 223 submissions and many supplementary submissions that capture the perspectives of a range of people and organisations associated with the building industry in New Zealand. We want to thank all those people and organisations that put the time and effort into making these submissions.

We are aware that a lot has been happening while we have been undertaking this inquiry. However, we hope our findings and the efforts of submitters to this inquiry will lead to positive changes to the Building Act.

The conduct of this inquiry and the membership of the committee are attached as Appendix A. A list of submissions received is set out as Appendix B, and a list of advice and information considered is attached as Appendix C.

⁵ Submission 222, p. 6.

Part 2 Building Materials and Products – Untreated Timber and Monolithic Cladding

Introduction

Many of the submitters who address building materials see the use of untreated timber and monolithic cladding, in conjunction with inappropriate building design for New Zealand conditions, as the major causes of the weathertightness problems. Submitters consider that these factors have been exacerbated by changes in construction methods and faulty workmanship.

On the other hand, one submitter comments that while untreated timber and cladding have been cited as the main cause of the weathertightness problems, houses built in other parts of the country have remained dry. Another submitter believes that the problem is not new: where formerly it related to the roof, it now relates to framework and cladding.

The submitter, CEW Management (New Zealand) Limited, calls for a review of the construction materials currently being used. The six Auckland territorial authorities asked that the committee investigate imposing a requirement pertaining to the durability and serviceability of materials, as they consider that all building elements should have a lifespan of 50 years – the same as the lifespan of the building. Other submitters also want research and testing of new products for New Zealand conditions, and for the research to be carried out using a ‘whole system’ approach, rather than using individual components.

Another submitter calls for tighter regulation to control building material usage, mainly so as to address factors such as exposure to wind. Several other submitters call for products or materials causing problems to be banned. More accountability among product manufacturers is also wanted.

Monolithic cladding

We note the submitters’ comments about the unsuitability of monolithic cladding for New Zealand’s climate and conditions. However, other submitters do not want any amendment to the building code to influence against providing proprietary monolithic claddings in general. GR Bayley and Associates says that, in its experience, it has never seen a leaky building where an appraised or recognised plaster cladding system has been used.

Auckland Cladding Survey

We note the Institute of Technology, UNITEC, undertook research on 287 pre-purchase inspections carried out by Prendos Limited between the years 1996 and 1999. The research objectives were to see if there was a link between a particular wall cladding and the type and frequency of any defect, and comparing the performance of claddings after the introduction of the building code.⁶ The main findings of the research⁷ were that:

- Seventy-five percent of the sample dwellings constructed about or after the introduction of the building code had one form of defect or another.

⁶ The research was reported as the Auckland Cladding Survey, December 2000. p. 1.

⁷ Auckland Cladding Survey, p. 40.

- Fifty percent of the sample dwellings (post building code) let moisture in to one degree or another.
- The defect per cladding ratio and defect per dwelling ratio were at their highest for dwellings built since the introduction of the building code.

UNITEC found that the number of defects had increased substantially in the last 10 to 12 years, coinciding with an increase in the use of monolithic cladding. One conclusion was that the technologies associated with the installation of certain alternative cladding systems are different and generally more complex than those associated with weatherboard. The absorption of moisture by highly insulated building elements supporting barrier-type cladding systems has more serious implications in respect of durability than its presence in the more traditional self-ventilating timber and veneer cladding systems.

Timber

Many submitters comment on the issue of using untreated *pinus radiata* for framing. One submitter, Allan Associates, a forestry consultancy firm, regards the fundamental issue of building material as more important than building practice and performance. A number of other submitters also express concern at what they regard as misrepresentations from several quarters, including the timber industry and the media, about the merits of using treated and untreated pine. Submitters also express concern about the economic effects that negative perceptions about timber may have on that industry – research and information are wanted.

Untreated timber

Most submitters who comment on this issue consider that the use of untreated timber can cause or contribute to weathertightness problems. Some submitters attribute ‘untreated timber’ as the main cause of the weathertightness issues. Many submitters call for a return to appropriate preservative treatment for exterior wall framing and other prone areas, such as those related to ‘decking’. A few submitters also comment on the use of ‘new pine’ and its implications, which include the need for stress grading, given that it has lower density, stiffness and durability, and higher moisture content – being a sapwood.

The six Auckland territorial authorities and a number of other submitters call for research into the use of untreated *pinus radiata* to investigate:

- the effects of modification to the species when setting harvesting times and specifying drying regimes
- any changes required to its chemical treatment, stress grading, and engineering.

Submitters from the forestry sector point out that *pinus radiata*, as the dominant construction species in New Zealand, is not a durable timber. The submitter, Allan Associates, states that the success of the *pinus radiata* timber industry has been solely due to effective preservation treatment, which was under strict legislative control from 1955 to 1988. The submitter believes that the abandonment of this control has led to the chaos now being faced. Another submitter considers that two factors have contributed to the problem; the use of chemical-free timber (treated timber acts as a water barrier) and the use of kiln-dried timber (which acts like a sponge).

Mandatory use of treated timber was regarded as best practice

We note the comments of Dr John Butcher from the New Zealand Forest Research Institute that New Zealand's mandatory use of treated timber was regarded as best practice internationally. Dr Butcher says that experience over many decades and in many countries has clearly illustrated that, in the lifetime of a building, there is a good chance of water leakage occurring. Furthermore, Dr Butcher says that it is well known that new building techniques and poor design can also cause leakage, as in Vancouver and California.

We also note the view of another expert submitter who considers that if timber were still protected with boron or some other fungicide there would not be a problem, and that dropping this measure was a scientific error. In his view, the unprotected framing timber that is currently being used is not fit for the purpose.

Prendos Limited and other submitters, also consider the loss of boron treatment to be the single most important factor, as boron treatment, because it was so effective, has allowed unsound cladding and building practices to flourish.

As a Crown institute, the New Zealand Forest Research Institute that was advising the Weathertightness Steering Group has always been of the view that timber should be appropriately treated for risk management purposes before use in construction. The research institute comments that when *pinus radiata* is exposed to moisture (physical wetting or high humidity), and it is not treated with the correct protection chemicals, it will be subject to decay regardless of whether it has been kiln-dried or not. The institute considers that the sequence of events associated with constructing a building, and its subsequent operation, makes it difficult to ensure that framing timber stays dry.

The New Zealand Institute of Forestry is also concerned at the increasing evidence of a lack of weathertightness in buildings, which is leading to a deterioration of timber framing, as well as other building components and furnishings. It states that in 1996 fungal decay of any type was uncommon in New Zealand houses and buildings, except in older ones that were constructed using untreated timber. The institute of forestry notes that New Zealand, then, had virtually no timber remedial industry except for borer eradication, which was almost exclusively confined to older houses. It notes that kiln-dried only timber must not become wet even for relatively short periods during the building structure's entire intended design life of 50 years or more. The institute points out that kiln-dried timber was originally boric treated and it considers that a new method of application to timber after it is kiln-dried is needed, with new processes showing promise. It recommends the re-introduction of compulsory treated timber framing for house construction where wetness is possible, with the level (of treatment) being dependent on the assessed risk.

The Consumers' Institute considers that the use of untreated softwood framing timbers is a secondary factor, rather than a prime cause of the weathertightness problem. The institute and several other submitters consider that framing timber treated with boric salts provides not only insect resistance, but also a reasonable degree of protection against decay. It

recommends the re-introduction of regulations requiring framing treated to a minimum of H1,⁸ as a matter of urgency.

Another submitter observes that all roofing and cladding can leak at some stage, for example, by a nail coming loose or by storm damage. Given that a leak may not be traced for some time, the submitter therefore considers that, if internal timber is of structural importance or in an inaccessible place, it should be treated.

While CEW Management does not consider that blame can be laid on the use of kiln-dried timber when that is not the cause of the leak, it does recommend an immediate requirement that all timber external to the envelope be treated to at least H3⁹, on the basis that framing is often without cover during construction, and is encased without having its water content checked.

Plaster Systems Limited considers that the Government's decision to allow untreated timber in the mid-1990s is the reason that the current problem is so large. It is aware of leaks stemming from roofing elements, plumbing faults, window joinery, and all types of cladding as well as from homeowners' responsibilities. The firm recommends an immediate change to the building code to make the use of H1 plus decay resistant framing compulsory for all general framing uses, and the use of H3 for balconies and bottom plates. A forestry expert does not consider that untreated pine should be used for weatherboards either as, in reality, the required exterior paintwork is often neglected.

BRANZ submits that untreated kiln-dried timber will work as framing timber above floor level if it is kept below 20 percent moisture content. This view is supported by an interim report of research carried out by the Weathertightness Steering Group.

Nevertheless, as identified in the Hunn Report, there are a large number of problem areas in the industry that must be addressed to solve the current weathertightness problems. This will not happen overnight and BRANZ therefore agrees that some degree of timber treatment for timber framing used above floor level is desirable for many applications. In BRANZ's view, this should be equivalent to H1.5 boron treatment ... at this treatment level the boron salts are effective against borer, and also provide enough fungal resistance to cope with occasional leaks ... This will provide an adequate level of protection during construction and provide an opportunity for leaks to be repaired without major timber damage (provided they are found within a few years) and without introducing the toxic side effects possible with higher treatment levels.

BRANZ does not support treatment of wall framing timber to H3.

Some submitters, including BRANZ, point out that there may be public resistance to chemical treatment of timber due to environmental and health effects, with scope to choose different options for treatment. In addition, another submitter considers that the

⁸ H1 treatment specification is described as 'low decay hazard'. This confers protection against all insects commonly found in New Zealand. Its major use is as house framing, interior linings and trim.

⁹ H3 treatment specification is described as 'moderate decay hazard'. This is for timber exposed to the weather but not in contact with the ground. Typical uses are fence palings, rails, decking and weatherboards.

Timber Preservation Council¹⁰ needs to be more active in checking timber does comply with the treatment uptake required and branding, stating that bad habits are creeping into the industry.

Untreated timber is not the cause

The comparatively few submitters that do not consider untreated timber to be a cause or contributory factor, either do not see this as relevant – leaks being caused by other factors – or consider that boric treated (H1) timber protects only against insects, not rot. One submitter considers that there is nothing wrong with any modern building material, including untreated timber, as treatment previously was only against insect attack, not fungi.

GR Bayley and Associates state that empirical data does not support the premise that all houses have always leaked. It cites the Auckland Cladding and Carter Holt Harvey surveys. In its view, rotting of untreated timber is merely a symptom of leaks, not a cause:

If timber is subjected to moisture levels constantly above 20 percent then all timber will eventually rot – whether treated or untreated ... Simplistically, the problem with rotting houses is not untreated timber – it is water getting in. Without water, there would be no rot. Solve the problem of water getting in and you solve the rot.

One submitter considers that the structural failures of untreated timber are not primarily the fault of the timber, but are due to moisture conditions within the walls. Given the saturated conditions encountered today, the submitter considers that a much higher treatment standard (H3 or H4)¹¹ would be required, and that would be expensive. The submitter therefore considers that it is better to apply additional cost to attaining dry wall cavities.

The Kapiti District Council does not support the use of H3 treated timber to external framing when using monolithic claddings. It considers that what is needed are buildings that prevent moisture coming into contact with the framing, otherwise owners would still have to cope with wet and mouldy interior linings, rotting floors, and wet and rotting carpets.

Carter Holt Harvey Innovision does not want treated timber to be mandatory. It wants to leave the decision open, and for customers to get a correct assessment and advice, which will be based on the opinion of an expert, who should be licensed. Fletcher Challenge Forests does not view treated timber framing as the solution to leaky buildings. The company says the solution is good design, sound building practices, and careful attention to weathertightness detail.

¹⁰ All wood preservatives used in the commercial treatment of timber in New Zealand must be approved by the Timber Preservation Council, a body constituted by Parliament to secure and maintain a high standard of timber preservation.

¹¹ H4 treatment specification is described as 'high decay hazard'. This is for most ground contact situations. Barn poles, fence posts, stays and trainers, crib walling and other landscaping uses are typical examples.

History of untreated timber

Many of the submitters who believe that untreated timber is responsible for the weathertightness problem consider that responsibility lies with whoever first made this decision. Responsibility is variously said to lie with the Government, the Building Industry Authority, BRANZ, Standards New Zealand, the timber industry, and a major plasterboard manufacturer.

The Building Industry Authority tells us that, during the early 1990s, pressure from the timber industry was brought to bear on the building industry for the introduction of kiln-dried chemical free (untreated) timber. The authority says that the timber producers' export markets drove this move, as the local market was small when compared with export markets. Consequently, producers preferred local markets to follow suit with regard to product.

NZS 3602 'Timber and Wood-based Products for use in Buildings' is the standard published by Standards New Zealand, which deals with the treatment of timber for use in buildings. This standard was amended in 1995 to allow, under certain prescribed conditions, the use of untreated timber in buildings. The prime condition for the use of untreated timber is that its in-service moisture content shall not exceed 18 percent. The amended standard was published as NZS 3602:1995 on 11 September 1995.

Standards review committees are made up of key stakeholders from within the respective sectors of the industry. The NZS 3602 review committee comprised representatives from 10 stakeholders in the timber and building industries. The industry committee, which advised Standards New Zealand on the changes at the time, included a number of experts on timber use and durability. The organisations represented on the review committee for NZS 3602 in 1995 included: Plywood Manufacturers Association of New Zealand; BRANZ; the Building Industry Authority; New Zealand Timber Industry Federation; Institute Professional Engineers of New Zealand; New Zealand Institute of Architects; New Zealand Manufacturers Federation; and Forest Research. Reviews of 'standards' are undertaken on the basis of consensus. Public comment is invited once a draft standard has been completed. Once comment has been analysed, and any necessary amendments made, the final document is approved by the New Zealand Standards Council for publication.

BRANZ told us that the main consideration of the experts in allowing the introduction of untreated kiln-dried timber was borer resistance. BRANZ understands that fungi and mould growth was not considered.

On 28 February 1998 Acceptable Solution B2/AS1 was amended to cite NZS 3602:1995 as a means of compliance with clause B2 Durability of the building code. Prior to this date, untreated timber could have been used as an alternative solution, provided the territorial authority or building certifier was satisfied 'on reasonable grounds' that the performance requirements of code clause B2 would be met.

The authority told us that builders favour kiln-dried untreated timber because it is lightweight and dry. The building code requires timber to be below 24 percent moisture content before any interior linings can be fixed. In addition, some manufacturers specify that the framing should be below 18 percent moisture content before their linings are fixed.

Thus builders use dry timber to avoid undesirable delays in construction caused by having to wait for timber to dry out.

Timber treatment status

The Ministry of Economic Development advised us of the Building Industry Authority's response to timber treatment. The authority is working towards a revision of the current timber treatment provisions within the Approved Solution B2/AS1. Its final decision on this issue will be subject to the findings of the following studies being undertaken to address required levels of durability for different parts of the building structure:

- The Environmental Risk Management Authority is conducting a study on the environmental and health effects of Copper Chrome Arsenate timber treatment. The draft results are due on 7 March and a final report 28 March 2003.
- A study into the timber preservative Light Organic Solvent Preservative, the draft results of which are currently being reviewed by the authority, the Environmental Risk Management Authority, and the Occupational Safety and Health Service of the Department of Labour.
- Evaluating the ongoing results of research by Forest Research into a new treatment under development, commonly known as H1 Plus, which appears to offer sufficient protection against intermittent leaks and is less toxic than H3 treatments. Forest Research will present another update shortly.

The ministry advised us that the authority expects to be in receipt of all the information it requires in the next few weeks, and could be in a position to make a decision by 31 March 2003. The results of these studies will dictate the level of 'soft' preservative treatment required for softwoods. We look forward to seeing the results of these studies, and would expect the authority to act upon the results of these studies, with some urgency.

Comment

Building lifespan of 50 years

We note the suggestion made by the six Auckland territorial authorities that all building elements should have a lifespan of 50 years. This would be a radical departure from current practice where, claddings are only required to last 15 years and sealants and paint five years. Given normal maintenance of a building, the notion that the total roof or wall system of a building should have a lifespan of at least 50 years is probably how the public perceives the durability of their property rather than the current building regulations on this matter. For instance, most new home owners would probably be quite surprised to learn that in 15 years they may have to replace their entire roof and all wall cladding, and all the sealant in five years.

We understand that adoption of this suggestion from the authorities would have far-reaching effects on the way buildings are built in New Zealand, and that requires careful study. However, we consider the idea is worth investigating to establish the full ramifications of introducing such a measure, and to find out what it would mean during the lifespan of the building. We accept that the initial cost of buildings may rise, but whether the total 'in life-cost' would be more or less requires investigation. We are advised that

building more durable buildings may have a positive impact on the overall quality of buildings, increase their long-term national asset value, and result in substantial resource conservation. We find that a desirable outcome.

Problem materials or products

We consider the suggestion that materials or a product causing problems should be banned to be extreme, particularly as there are no conclusive research findings that identify problem materials or products. However, we accept that if after research, particularly ‘whole system’ research, modifications to the materials, the detailing, or the construction system into which they are incorporated, may be necessary.

However, as an interim measure, we consider it would be wise for the Government to urgently appraise monolithic cladding systems in a ‘whole system’ context, by taking into account the reality of conditions found on building sites. We consider this precautionary approach is necessary until research can be conducted. We are advised that it may be sensible to reconsider total wall constructions based on the assumption that the wall system will leak. We do not consider this to be an unrealistic assumption. We understand no cladding can be guaranteed as being 100 percent watertight for its lifespan. We consider there are too many factors that appear to count against achieving and maintaining such perfection even when applicators are both skilled and conscientious. In the current building industry, such perfection is even less likely to occur.

It therefore seems appropriate to design all building envelopes, either to breathe (permit the outward migration of water vapour), or to be drained or vented behind the outer weatherproof layer. Monolithic claddings, in particular, are super-critical and unforgiving construction systems, and it would seem sensible for a carefully considered and foolproof water management system to be incorporated when monolithic claddings are used. We consider that the research, appraisals, and refining of the designs on a ‘whole system’ basis might best be carried out by BRANZ, with some funding and oversight by the Building Industry Authority. We also consider it to be unreasonable to suggest that the manufacturers concerned should contribute funding and technical assistance to this process. We consider that, in order to restore public confidence, the authority should control this process by temporary withdrawal of, alternative solution status to the systems under consideration or in respect of which major problems have been discovered.

Accountability from product manufacturers

We consider the suggestion from submitters that manufacturers should be more accountable for their products has merit. The manufacturers’ willing participation in any ‘whole system’ appraisal process would seem to be in their interest, as well as in the public interest, to help restore confidence in monolithic cladding systems in the marketplace and with statutory authorities.

We note one submitter suggests that the reliance of some monolithic cladding systems on perfectly applied paint films and/or silicon sealants to maintain the waterproof integrity of the system seems, to be ill-advised. We understand that sealants and paint systems tend to have a relatively short lifespan, especially when exposed to high levels of ultra violet radiation and movement. Faults and failures in these materials are often difficult to spot, and extensive damage can occur before discovery and remedial action takes place.

Whether sealants or paint should be allowed to be the primary means of weathersealing is highly questionable. While the use of these materials in this way is allowed under the building code, we consider the matter requires urgent review. We are advised that dry joints, such as those incorporating flashings, are recognised as being much more durable, although we understand they are harder and that they initially cost more to make.

Kiln-dried radiata pine

The National Party members believe that the use of untreated timber has been the major cause of the problem of rotting buildings. National Party members believe the building code must be changed, as a matter of urgency, requiring treated timber to be used in external framing.

The majority of the committee does not consider that kiln-dried radiata pine has been established as a cause of the weathertight building problem – its lack of resistance to rot has undoubtedly exacerbated the extent of damage caused by leaking weather skins. Again, we have an unforgiving material that relies on low humidity conditions being maintained for its durability. It is a concern that the combination of monolithic claddings and kiln-dried timber does not appear to take into account the realities of building construction and climate in New Zealand. We consider research is required to establish whether movement in kiln-dried timber has been a contributory factor in the creation of cracks in monolithic cladding systems.

As previously mentioned, it is unlikely that any cladding will remain perfectly weathertight throughout its lifetime. Therefore, we consider it is appropriate that exterior wall framing should incorporate some measure of protection against rot. We are advised that timber treated to H1plus or H1.5 would be a good option for enclosed timber framing above floor level. We are advised that such treatment might be fixed to prevent leaching and possibly applied by a ‘gas diffusion method’ to minimise wetting and consequent popping of plasterboard linings. We note this approach is in line with BRANZ’s view on this matter. We consider that BRANZ and the Building Industry Authority, with the assistance of the New Zealand Forest Research Institute, agree on an approach to the use of treated and untreated timber as a matter of urgency in order to alleviate the confusion that exists within the building industry on this matter.

The suggestion that H3 treated timber is used behind monolithic claddings, at least in the interim, and on exposed balconies and bottom plates when using pinus radiata, may have some merit, but we do not agree that it should be universally adopted for house framing. We consider this is unnecessary and would be expensive in view of the historic success of boric treated timber. BRANZ comments:

This [H1.5 boric treated timber] will provide an adequate level of protection during construction and provide an opportunity for leaks to be repaired without major timber damage (provided they are found within a few years) and without introducing the toxic side effects possible with higher treatment levels.

We note, in addition, that there have been serious health and environmental issues raised about the use of Chromated Copper Arsenate treatment, the most common method of achieving the H3 performance standard. These health and environmental issues have resulted in the banning, or phasing out, of CCA treatment of timber destined for residential

use in a number of other jurisdictions. These issues have also led the Environmental Risk Management Authority to undertake a review of the safety of CCA treatment, and for us to recommend, where it is thought necessary to treat timber to H3 standard, that alternatives be seriously considered.

Summary of recommendations

We consider it is imperative that new buildings built do not suffer from weathertightness problems, and that all buildings are durable and fit for their purpose. Any remedial action must therefore be effective, durable, and not result in a reoccurrence of the weathertightness problem. This should involve research being undertaken to determine whether all building elements should have a lifespan of 50 years.

As a matter of urgency, we also consider that ‘whole system’ research is necessary on wall systems. Such research needs to take account of the practical reality of the current skill levels in the building industry, the movement and deterioration that is likely to occur in building components during their lifespan, and New Zealand climate conditions. An approach to the future use of treated and untreated timber is urgently needed to alleviate the confusion that exists within the building industry on this matter.

Product manufacturers also need to be made more accountable for their products to restore public confidence in the use of their products, particularly monolithic cladding systems.

We therefore recommend to the Government that:

- 2 A study be undertaken to examine the full ramifications of introducing the requirement that all building elements should have a lifespan of 50 years.
- 3 As a matter of urgency, ‘whole system’ research be undertaken on external wall cladding systems. Such research needs to include investigation of whether paints and silicon sealants should be allowed to be the primary means of weathersealing systems.
- 4 Any research, or assessment of, into external wall cladding systems must also include investigation of the health effects of using treated timbers in framing and the problems associated with the ventilation of buildings.
- 5 Given that any research into external wall cladding systems will take time, an immediate appraisal of monolithic cladding systems needs to be undertaken. Such an appraisal needs to be made within a ‘whole system’ context that takes into account the reality of the conditions found on building sites.
- 6 If any research into external wall cladding systems reveals deficiencies in any product or material, then the Building Industry Authority must take decisive action to require manufacturers to make modifications to the materials, the detailing, or to the construction system into which they are incorporated.
- 7 Product manufacturers are to be made more accountable for their products by encouraging their participation in any ‘whole system’ product appraisal process.

8 As a matter of urgency, the Building Industry Authority conclude its revision of the current timber treatment provision within the Approved Solution B2/AS1 and determine new standards for the use of treated timber, especially for external framing. Any new standards must take into account associated health and environmental issues.

9 Where it is considered necessary to treat timber to an H3 treatment standard, that serious consideration be given to alternatives. The Building Industry Authority and BRANZ need to do further research into alternatives.

Part 3 Building Design

Introduction

Building design, particularly that relating to mediterranean-style dwellings, together with monolithic claddings, are seen as significant factors in the current weathertightness problem. The features that are singled out for comment in the context of New Zealand's climate and conditions are; flat roofs, parapets, balconies and enclosed decks, complex junctions, lack of eaves, and internal gutter systems, together with a lack of ventilated cavities, and inadequate drainage and vapour barriers. Some submitters do not regard these 'dry climate' designs as suitable for New Zealand. Other submitters recognise that 'dry climate' designs are more difficult to construct to be watertight with related skill and material factors.

One submitter asks for mediterranean-style buildings to be quickly evaluated and, if found to be deficient, outlawed. The submitter, Toxicity Testing and Treatment HB 2000 Limited states that, after investigating 100 properties in Auckland, it found the most frequent cause of problems to be inappropriate design systems. The firm calls for current-day building designs to be changed to take account of the faults.

Another submitter considers that many leaks are the result of poor design and suggests that appropriately qualified persons should design all houses, or that designs should meet specific design standards. Another view is that the key cause of the weathertightness issue is innovative architects who have introduced new building designs from overseas without necessarily testing whether materials suit local conditions.

BRANZ states that building forms and materials have evolved rapidly since the mid-1990s, as part of an almost 'exponential growth in variety' over the last 10 years. Design forms for urban densification and upmarket housing have become increasingly complex with out there being much experience of the design and building of these types of buildings in New Zealand. BRANZ states that the built forms identified as being at the centre of the weathertightness issue are less tolerant than some of the more traditional New Zealand forms.

Designs without eaves are also partly attributed to council site coverage requirements, which several submitters want, addressed by exempting eaves from site coverage.

The Auckland City Council reports that it wrote to the Building Industry Authority and requested that it implement recommendations on a national basis regarding building design changes for buildings defined as 'high risk' by the Hunn Report. In the absence of a response from the authority, the council tells us it is to implement these recommendations.

Construction systems

Submitters who comment on building design see construction systems and methods, particularly those relating to new designs, as an associated part of the cause of the weathertightness problem. We note that one submitter compares the 'old system' with the 'new system'. Under the old system, the submitter says there was good ventilation with external walls treated as a single construction unit, and that sealants other than putty were unknown. Water that came through external walls either drained away or soon dried out.

The price paid was poor insulation, cold houses, high heating costs, and possible health risks. The new system keeps heat in as well as keeping water and all wind out, with slab floors the norm. The ideal is of a sealed, insulated, dry sandwich of building paper, insulation, timber frame, and internal lining, screened from the rain by the least expensive cladding possible. The new ideal fails because timber frames and cladding get water penetrating that has nowhere to go but further in. Water vapour from inside the house may also accumulate within the sandwich. The submitter considers that the new ideal also fails because it was grafted on to a system that assumed a well-ventilated timber frame.

Comment

We accept that certain designs, or even certain design features, are more difficult to construct in a satisfactory manner than others. However, we consider that it would be a retrograde step to ban a particular design approach. We consider a better, and more acceptable, approach is to require more detailed construction information, and more rigorous inspections of designs and design features that are more challenging to get right on-site. These matters are covered next.

Part 4 Level of Detail Provided with Building Consent Applications

Introduction

Some submitters consider that the building consent process that is administered by territorial authorities has become too permissive in the level of detail it allows to be provided with building consent applications, particularly architectural or design drawings. These submitters call for a greater level of detail to be included in plans and specifications for all building consent applications. We note submitters do not confine their request to weathertightness of buildings.

Submitters consider that a greater level of detail is needed because of the increased complexity of building systems and the decline in the skill levels of those employed in the building industry. Submitters consider that a greater level of detail would assist in the assessment of building consent applications and inspections, but that it will also provide a record for subsequent purchasers. On the other hand, some submitters consider that there should be no change to the level of detail, because it is too difficult to accurately define such a prescriptive level of detail without making the building consent process too prescriptive.

We note certain submitters want the required detail to be set out in guidelines or a code of practice to ensure consistency. These submitters express concern about the variances between territorial authorities over the consent documentation and the standards of detailing required. They propose prescribing certain details related to weathertightness in the building code and the New Zealand standards.

Some submitters also consider that approved documents should be developed and expanded to the point where a builder could build a house from them without reference to secondary documents. Several other submitters also ask that more use be made of the Building Industry Authority's accreditation process, particularly that the accreditation of alternative solutions should be based on an integrated 'whole system' approach that would include consideration of the designated material and the location and construction method used in applying that material. The testing of new and existing products would be a key component of the information required in greater detail in future.

Detail in building consents

The many submitters that call for greater detail to be included in building consent applications consider that there needs to be more detail included in plans and specifications relating to weathertightness, particularly for mediterranean-style, monolithic-clad homes in areas such as cladding, roofing, balconies or decks, openings and junctions, together with the requisite flashings, sealants, cavities, and drainage. The reasons given by submitters include: the increased complexity of building systems, use of 'piece work', and the reduction of skill and knowledge in the workforce. Submitters do not consider it is appropriate for builders to be left to 'fill in the gaps' for what is not specified in the building consent documentation. Submitters also consider that a greater level of detail will assist in the assessment of applications and inspection.

We note the New Zealand Construction Industry Council and the Institute of Professional Engineers New Zealand consider it desirable to require more detail in the documentation

currently supplied with building consent applications, and not just for weathertightness matters. The institute believes that the building consent approval process may have become too permissive, and that the old ‘make it up as you go’ philosophy does not seem to work with today’s house designs and construction methods. It states:

In the interests of costs saving in design it has become increasingly common for details of joining systems, flashings etc not to be specified at the design stage but rather left to the builder’s discretion.

On the other hand, GR Bayley and Associates considers it is too difficult to accurately define a prescriptive level of detail to be provided with consent applications. Another submitter considers there should be no change to the level of building detail required for building consent applications, as the level of detail required depends on the nature and complexity of the project. Other submitters say that non-complex conventional buildings should not require extra detailing with the associated extra costs, but unconventional buildings such as mediterranean-style buildings should require explicit weathering details. A few submitters consider that the problems arise, not from poor detailing, but from poor interpretation of the details, and lack of responsibility on the building site.

Building and dispute resolution consultants, Alexander and Company, submits that a select committee cannot adequately address these matters, as they need to be considered by building industry experts. It notes that the Weathertightness Overview Group is already working on these subjects. The submitter considers that determining the required level of detail in building consents is a complex matter. Plans and specifications can never detail everything that is needed on every building, and there will always be a need to rely upon the skills of the parties to the construction project.

The Property Law Section of the New Zealand Law Society supports the Hunn Report recommendation to review and upgrade the criteria of what constitutes a reasonable level of detail. It considers that more detail at the consent stage would also provide a record for subsequent purchasers.

The New Zealand Institute of Architects considers that the level of detail necessary for a particular building type should be made clear to applicants prior to applying for building consent. It acknowledges that the level of detail will vary with the building type and procurement method. Another submitter notes that plans are often accompanied by specifications prepared from a set of master clauses, which often bear little relevancy to the particular job. GR Bayley and Associates observe that a level of certainty is currently lacking in specifications regarding component, material, or final design details in projects that are frequently unspecified or referred to as ‘to be advised’ or ‘or equivalent’ when fast-tracked.

Architectural Designers New Zealand believes the certifiers or the territorial authorities should determine the level of detail necessary to obtain building consent. If the documentation is insufficient to show compliance with clause E2.2 of the building code, then territorial authorities are not doing what they are charged with under the Act. In its experience, there is considerable disagreement among territorial authorities over consent documentation and the standards of detailing required.

Hawkes Bay Building Certifiers and Consultants Limited considers that requiring a greater level of detail will only be effective if those providing, checking, and implanting the detail are sufficiently skilled and knowledgeable to understand their function. GR Bayley and Associates says that the principles of weathertightness need to be taught to those processing the building consent applications so they can understand and apply the principles to the specific examples.

Alexander and Company believes that the timeframe of 10 working days for processing applications does not provide the territorial authority or building certifier with enough time to properly process an application in situations where it is likely that further or more detailed information is, or should be, required. It says the commercial reality for both the territorial authority and the certifier of having to perform to the client's expectations has, in many cases, taken priority over proper technical assessments. The submitter goes on to express concern that, at present, regulators have no ability to prevent people from taking out building consents when they know their previous projects have ended in non-compliance with the building code.

Increasing level of detail in consent drawings

A number of submitters focus on increasing the level of detailing in consent drawings by asking for consent documentation to include full cladding weathertightness provisions that include flashing details.

The Law Society understands that architects only design a house and provide the plans and specifications for five to 10 percent of all new house construction. The society says it appears that the level of detail provided by draughtspeople acting for developers is inadequate.

Their plans give little comfort [that] expert consideration has been given to the interrelationship between design, the materials used and the tolerances required as part of the building process.

We note that that the Institute of Professional Engineers also considers that too many designs proceed to consent without sufficient professional design input. It states:

The vast majority of house designs are not the work of registered architects, with lower-cost architectural draughtspeople or even builders often doing the work. This might have been satisfactory for highly standardised single-story pitched-roof houses, but for elaborate designs the risk of unintended consequences from poor design is greater.

Another submitter considers that house designers currently provide insufficient detail in respect of weathertightness, and that builders commence building without sufficient detail – often ‘making things up’ on the spot. The New Zealand Certified Builders Association says that:

All too often the design sector will simply provide a reference from a technical manual without making the effort themselves to understand the process, or blame their clients for failing to pay enough to enable them to provide full detailed drawings.

The association believes that designers often assume the builder has specific knowledge of the detail and that what works on paper often does not work in practice. It submits that there needs to be a single facility operated by the Building Industry Authority, BRANZ or Standards New Zealand, which collates, examines and approves all generic design details, and makes available all approved designs for training and application.

We note the six Auckland territorial authorities consider that increased detailing requirements for drawings are needed, particularly for high-risk buildings. Three territorial authorities consider that significant cost pressures exerted by developers and owners have forced architects and engineers into using cheaper building methods and providing minimal documentation with the building consent application. This has usually been at a lower level than the working drawings required for the builder to construct the building properly. These authorities consider that architects and other designers need to supply full working drawings that detail precisely how the work is to be done, and include attention to weathertightness.

The Whakatane District Council told us that the interpretation of drawings lacking in detail has been an increasing problem and results in requests for additional details of a clarifying nature. Such requests are often met with argument about excessive compliance costs and comparisons with other territorial authorities that accept a lower standard of documentation. The six Auckland territorial authorities also submit that, as part of the process for issuing a building consent, there should be tighter auditing processes when drawings are reviewed.

However, Architectural Designers New Zealand says that the current problems are not a result of poor detailing by designers, but are the result of poor interpretation of the details and the lack of responsibility on the building site. It considers that it would be unreasonable to require each and every flashing or weatherproofing detail to be specifically detailed and for a certifier, while inspecting drawings for consent certification, to identify and check the detailing of all flashings situations – that is, unless the certifier produced the document and was fully aware of all areas that required specific flashings. Another submitter echoes the view that no amount of detail will ensure a weathertight building. While drawings may indicate that flashings are required, it would not be practical to detail these, except in non-standard or unusual situations. It is up to the builder and tradespeople to know from their training where these are necessary.

Identification of details wanted

Submitters would like to see included in building consent applications details of cladding, roofing, balconies or decks, parapets, openings and junctions, together with the requisite flashings, sealants, airseals, building wrap, and cavities.

We note the Consumers' Institute considers that the following detail in respect of weathertightness should be required in contract documents:

- clear and descriptive detail of flashings, sealant types and all other matters to do with the limitation of water penetration into a structure
- details of any manufacturers' specifications as an appendix that must be prescriptive and comprehensive

- inclusion of three-dimensional drawings regarding the relationship between horizontal and vertical joints.

We also consider that more cross sections should be required to be included in building consent applications, particularly when a building changes complexity.

Prendos Limited recommends that all consent applicants should include a:

- comprehensive schedule of details of those areas vulnerable to water penetration
- requirement that structures of a certain size be subject to design calculations for movement due to shrinkage, wind loading and the possible effect upon watertightness
- requirement that rainwater be properly collected and disposed of.

Prendos also recommends that applications for face-sealed monolithic cladding systems should include adequate construction details, specifications, installation instructions, and product testing and approval.

The six Auckland territorial authorities consider that detailing on plans needs to be presented in diagrammatic form for easy understanding and included in consent documents that must remain on the building site at all times. The authorities consider that as a mandatory requirement all plans should contain details on flashings and parapets for all buildings under the New Zealand Standard NZ3604.

The Kapiti Coast District Council states that areas openings in walls, exposed parapets, penetration through claddings, wall and roof junctions, and enclosed decks all need to be addressed in specific detail. These details should include flashings, designs, flashing materials, and fixing methods. The council considers that the details should be project-specific, and the use of generic (standard) details should be encouraged for mediterranean designs or buildings constructed on exposed sites.

Mainzeal says design documentation should include full cladding, flashings, and weathertightness provisions. Such detail should not be typical or generic, rather they should be particular to the subject of the submitted design and to address junctions and insertions.

The Law Society wants the building consent to include knowledge of the performance specifications of the products used, and evidence that the work is to be undertaken by an approved applicator along with the manufacturer's performance guidelines and instruction. The society also wants the building consent to include details as to who will accept liability for the performance of the materials. It also proposes a contract sheet that sets out the party or parties with responsibility for watertightness.

Guidelines or code of practice

A number of submitters call for the development of guidelines or a code of practice on what detail is required for building consent applications. Many of these submitters want mandatory minimum detail to be specified regarding typical weathertightness details, such as cladding, flashings, critical junctions, deck membrane, balcony or parapet walls, and ground clearance. Submitters suggest that the Building Industry Authority, BRANZ, and the building sector, or Standards New Zealand develop these guidelines.

Local Government New Zealand supports the standardisation of requirements regarding the information to be provided in support of building consent applications to ensure that weathertightness is achieved. It advises that many councils are already reviewing their procedures in this respect. The six Auckland territorial authorities confirm that a number of councils in the Auckland region have already begun requiring greater detail in building consent applications, for which guidelines and advice as to what constitutes a reasonable level of detail are 'requested urgently'. The Wellington City Council also seeks the development of guidelines for documentation related to weathertightness, in order to ensure consistency between territorial authorities and other building professionals providing this service.

The Franklin District Council submits that the Building Act and its regulations do not prescribe what needs to accompany an application. It requests the committee to inquire into ways to include a similar requirement – to be expanded if necessary – to the former New Zealand Standard Model Building Bylaws 1900 Chapter 2:1984, which all territorial authorities adopted before the Act. We note that Standards New Zealand considers that a New Zealand standard could provide an effective definition of the level of detail required for consent applications. Such guidelines would be based on requirements set down in the building code and underpinned by New Zealand Standards, Building Industry Authority-approved solutions and other testing and appraisal mechanisms.

Specification in building code

A number of submitters ask for greater detailing to be included in the legislation in terms of what is required in a building consent application. In particular, some submitters want a more prescriptive building code in areas of high risk such as weathertightness and durability. Submitters propose clauses B2 Durability and E2 External Moisture of the code be amended to include further specification in the areas of durability and external moisture. An extract from clauses B2 and E2 are attached as Appendix D.

Submitters ask that the building code be amended to include the following detail:

- Clause B2 be amended to require exterior cladding materials to have a durability requirement of not less than 50 years instead of the current 15 years.
- Mandatory generic clauses be added for all critical weathertightness areas of roof details, flashings, junctions, and parapets.
- Typical flashing requirements.
- Clause E2 be amended to require ventilated cavities.
- Moisture content permitted for timber-framed insulated buildings.
- For using lightweight cladding material.
- Functional requirements and performance clauses of the building code be augmented to provide a more robust framework for alternative solution evaluation.
- Requirement that product certification by BRANZ be part of the building code.

The New Zealand Institute of Forestry supports a 'belts and braces' approach to ensuring long-term durability by applying the following '6D Concept':

- **Design** – appropriate to New Zealand’s high wind, high rainfall.
- **Deflection** – use of eaves and flashings on critical elements.
- **Detail** – elimination of water traps, poor workmanship.
- **Drainage** – appropriate drainage cavities behind monolithic cladding.
- **Drying** – wall cavities designed to dry to the outside to keep moisture content, and not the framing, below 20 percent.
- **Durability** – increased use of preservative treatment so that problems can be noticed and rectified before major structural elements decay. The additional durability is not to overcome all primary defects, as carpets, plasterboard, and chipboard flooring will all deteriorate in far shorter time.

Develop New Zealand standards

Standards New Zealand recommends that a New Zealand Standard be developed for the level of detail required for building consent applications. We note Standards New Zealand has been commissioned by the Building Industry Authority to develop prescriptive acceptable solutions and verification methods for the Approved Documents B2 Durability and E2 External Moisture. It is also ‘scoping’ a standard on durability.

Suggestions from submitters include:

- Amending NZS 3604:1999 ‘Code of Practice for Light Timber Frame Buildings’ to provide more guidance on what are acceptable sample details in respect of joins between windows, doors, and cladding which were made an acceptable solution to the building code, and in regard to sealants used in place of flashings.
- Expanding NZS 3604 to detail a complete ‘model standard house’ design manual so that those who want a basic house can be certain of proven and durable design and construction methods.
- Developing mandatory standards for all high-risk buildings that include a cavity, sealants that are not to be used as a primary tool for ensuring weathertightness, flat-topped exterior parapet and balcony walls that must be capped, aluminium windows that have a minimum flange of 32-40 millimetres, and the bottom timber plate be treated to hazard class H3.
- Amending NZS 3602 ‘Timber and Wood-based Products for use in Buildings’ so there is tighter specification as to when and where untreated timber will perform satisfactorily.
- Changing standards for monolithic cladding to have a ventilation and drainage gap between stud-covered cladding and backing.
- Changing building certification so that all bottom plates are tested at 1200 millimetre centres and every second stud at 200 and 400 millimetres above the bottom plate.

Approved documents

Suggestions from submitters include:

- Urgently reviewing approved documents that need reviewing – some work, some do not. Approved document ‘External Moisture’ needs urgent review.
- Developing and expanding Approved Documents to the point where a builder could build a house from them without reference to secondary documents. Approved Documents should be developed so that designers, builders, and building control officers can use them to compare alternative solutions and assess whether the desired outcome will be achieved.
- Clarifying approved document for the building code that provide details on ‘verification method and acceptable solution’ for various parts of a building, but is difficult to interpret.
- Developing standard acceptable solutions in respect of flashings.
- Requiring verification methods to be quantitative rather than qualitative.

Accreditation, appraisal and testing

Local Government New Zealand and Prendos Limited ask that more use be made of the Building Industry Authority’s accreditation process. These submitters consider that accreditation of alternative solutions should be based on a ‘whole system’ integrated approach, which should include not only consideration of the designated material, but also of the location and construction method used in applying that material.

Prendos and the Franklin District Council note the Hunn Report’s concern about the independence of BRANZ appraisals. The Applied Technical Institute, UNITEC, wants appraisal certificate approvals reviewed for products that rely totally on paint to keep the weather out. The Opotiki District Council calls for all new products or systems to be subject to full appraisal or accreditation before being allowed for any construction use. The six Auckland territorial authorities and a few other submitters expect testing of new and existing products to be a key component of the information that will be required in greater detail in future. They consider this needs to be done on a ‘whole system’ basis, and based on the real use of such products, as there is currently an over-reliance on information provided by manufacturers and producers, which tends to be component-based.

Comment

We note the views of those submitters who consider that the Building Industry Authority and the Building Officials’ Institute of New Zealand should review and upgrade the criteria for what constitutes a reasonable level of detail to be provided with building consent applications, in respect of weathertightness detailing, including flashings.

Approved documents which contain standards for building products and systems, and building product accreditations, are meant to provide territorial authorities with a robust regulatory framework, to ensure that building design and construction carried out in their region meets the standards defined in the building code. While the intent behind this aspect of the building control regime is sound, we are concerned that it has allowed ‘leaky buildings’ to be erected. Territorial authorities should accept – and we are pleased to see that some do – that the building consent process, which they have discretion over, has contributed to the systemic failure in the industry.

We consider that the regulatory framework, within which territorial authorities have operated under the Building Act, needs to be strengthened. Despite the protests of excessive compliance costs, we consider this can only be achieved by requiring a more comprehensive level of detail to be submitted with applications for building consents.

Variances between territorial authorities and building certifiers

Clarification of the detail required is also needed to overcome the variations that exist between the different territorial authorities and building certifiers, in terms of the quality of documentation submitted with applications for building consents. We consider this would eliminate the uncertainty that exists over building designs and products. Clarification and standardisation of the level of detail to be provided with building consent applications would also assist territorial authorities and building certifiers to carry out their duty prescribed in section 33(2) of the Act, with due diligence.

Section 33(2) of the Act provides individual territorial authorities with the discretion to determine the level of detail to be provided with building consent applications. Section 33(2) states that:

Every application for a building consent shall be in the prescribed form and be accompanied by the charge fixed by the territorial authority in relation to the making of the application, and by such plans and specifications and other information as the territorial authority reasonably requires.

The term ‘plans and specifications’ is defined in section 2 of the Act as meaning:

... the drawings, specifications, and other documents according to which a building is proposed to be constructed, altered, demolished, or removed, including proposed procedures for inspection during construction, alteration, demolition, or removal, ...

We note the views of those submitters that consider this has led to varying interpretations being made by local building control officers, builders, and other professionals, and has caused different end results.

Determination of level of detail to be provided

However, we consider the key issue is to determine the level of detail provided for building consents that is necessary to ensure the proper assessment of applications and inspections.

We are advised that because of the highly competitive nature of the building industry there is a financial incentive for designers to provide a minimum level of information with building consent applications, and for territorial authorities and building certifiers to accept it. We understand that even if the level of information presented to a particular vetting organisation is deemed by them to be insufficient, the applicant can take it to other vetting authorities until he or she finds one that will accept the application as adequate, and issue the necessary permissions on the basis of the received documents. Those designers and territorial authorities seeking to maintain standards in this respect are therefore finding it increasingly difficult to do so. In other words, the current system allows designers and vetting agencies to derive commercial advantage by lowering standards. We find that unacceptable. It is a concern that the current system, and the economic realities of the industry, encourages this behaviour of key industry players and is driving standards down.

We are also advised that some designers and vetting agencies feel that, if something does not appear in the documentation, they cannot be held responsible if something goes wrong.

We understand that this situation applies to applications for the acceptance of alternative solutions, but does not apply to documentation for designs that use acceptable solutions. It would appear that in some cases the standard of proof being accepted for being 'satisfied on reasonable grounds' in accepting alternative solutions is being set too low. The ability of applicants who have had their application rejected by one vetting body or company to simply go around to other vetting organisations until they find one which accepts their 'evidence' seems to count against maintaining quality standards in this area.

We note there are only a few Building Industry Authority accredited products and systems. In view of this, territorial authorities and building certifiers have wrongfully accepted BRANZ appraisals as proof that the products and systems covered by the appraisal are acceptable as alternative solutions. In some cases, producer statements or generic manufacturer's information are being accepted as sufficient proof.

This has led us to believe that this evidence is being accepted on the basis that if someone else says that the products and systems are okay and something goes wrong then the vetting agency cannot be held responsible. Often, whilst BRANZ approval of a product was justified, the incorporation of the product into a building framework and its interrelationship with other products and building elements is untested. This may be an inevitable response to a situation where, through a demand for greater efficiency and cost saving, the vetting agency is under severe financial and time pressures and may not really understand much about the products or systems it is required to vet and approve. Nonetheless, we find it unacceptable that the system allows vetting agencies to abrogate their responsibilities. We consider that in a regulatory agency efficiency and cost savings should never be allowed to compromise safety and durability.

Under the Building Act, building systems, particularly complex cladding systems, have proliferated. Given such proliferation, we consider there is a strong case for requiring more detail of building systems to be provided in building consent applications. We consider this would ensure such systems are properly assessed and that there is sufficient detail available to enable them to be constructed by a workforce with reduced skill and knowledge. Part 7 of this report addresses declining skill levels in the building industry.

We note the views of a number of submitters who suggest that much of the information incorporated in the building code is too generic to be useful or to provide the necessary guidance to ensure consistency of application, and avoid the gradual erosion of quality standards relating to alternative solutions over time.

Way forward – practical solutions

We support the Building Industry Authority working with the Building Officials' Institute of New Zealand and Standards New Zealand to develop a code of practice that sets out and defines the documentation requirements for building consent applications, in general, and for alternative solutions. We consider the comments made in the Hunn Report and in the submissions made to this inquiry need to be considered in the development of such a code of practice.

We would expect such a code to require the submission by applicants of a greater level of detail than is currently required, particularly in regard to critical areas of a building, and where a design is complex, technically challenging, untested, or intricate. We consider information must be project-specific and require a minimum of interpretation by on-site operatives.

We consider that to add certainty to all those involved in the building industry the Building Industry Authority be required to prepare and distribute sets of documents that show minimum acceptable ‘for construction’ information for different classes of building. The production of comprehensive, clear, simple-to-use information, and guidance on building control matters needs to be given a high priority by the authority.

Accreditation by the authority should be made the standard requirement for alternative solutions. We consider that the acceptance of anything less should be at the discretion of the Building Industry Authority and not territorial authorities or private building certifiers. The need for ‘whole system’ testing and proving in New Zealand conditions requires review to determine whether certain categories of products and systems accreditation should become mandatory.

We consider that each sector of the construction industry should be encouraged to take responsibility for producing a code of practice such as that being produced by the New Zealand Metal Roofing Association – ‘The New Zealand Roofing Code of Practice’.¹² We expect the authority to be proactive in this respect, even to the extent of providing some of the funding for such a project.

The inclusion of a greater level of detail in building consent applications will not ensure the weathertightness of buildings, but we consider it will assist in the assessment of applications, inspection, and the correct carrying out of work on site. However, this will only happen if sufficient time is allocated to preparing the documentation¹³, checking it, using the documentation as the basis of inspection, and their use and compliance by operatives on site. We consider all these procedures are necessary to do the job properly and ensure buildings that are erected are weathertight. Extra time and effort, beyond that which has become acceptable, will be required and incur greater initial cost. While these additional costs are likely to be passed on to consumers, we consider there will be substantial ‘life-cycle savings’.

We also consider that a greater level of detail will only be useful if the people preparing it, vetting it, and using it on-site, understand it and can interpret it. Given the complexity and supercritical nature of some recently introduced products and systems, and their utilisation in a deskilled industry context, some doubt must remain as to how effective this would be as a stand-alone measure. We therefore consider that it must be tied in with greater levels of education and knowledge about such systems amongst vetting agencies, and improvements in training and skill levels of applicators.

While today’s primary problem is centred on weathertightness, we consider it would be worthwhile to look beyond weathertightness when reviewing the level of detail required for

¹² Refer to submission 47W.

¹³ Such documentation would include, drawings, specification, calculations, and other submitted material.

building consent applications. For example, one submitter identified the ‘detailing’ required to achieve sound insulation as a potential future problem.

We consider it might also be helpful in terms of minimising costs, and adding certainty and accountability to the building consent process, if there was a mandatory obligation when making an alternative solution application to produce comprehensive testing data, technical information, and generic, true-to-scale drawings in relation to the major products and systems to be used. This information could be used as the basis of project-specific information. This would place a clear obligation on manufacturers to provide the information of other products that could be used. This may mean that work to be carried out in regard to proprietary systems must be done by applicators that were trained, licensed, and periodically inspected by the manufacturers. The manufacturer would then have a direct responsibility to ensure that the work was carried out in accordance with its instructions and would also see a level of responsibility retained by the manufacturer if things went wrong. We note that many responsible manufacturers already operate along these lines.

In view of our preference for project-specific details to be produced with the building consent documentation, and specific proprietary products to be specified for critical systems prior to obtaining building consent, then these must be incorporated into the works if any benefit is to accrue. This will mean that the current general practices of stating that materials and systems covered by the building code will be designated ‘to be advised’ or will be substituted with ‘equivalent’ materials, products or systems after building consent is given, needs to be controlled.

We note the relationship between the reduction in the level of documentation being accepted by some vetting agencies and cost competition. We consider the issue of whether a fixed fee regime, or other schemes such as a maximum fee regime, set by the Building Industry Authority would be more appropriate than fee bidding in this sector needs to be considered.

Summary of recommendations

We recommend to the Government that:

10 A code of practice be developed that sets out and defines the documentation requirements for building consent applications, in general, and for alternative solutions. We expect such a code to consider issues other than weathertightness.

11 Such a code of practice must require the submission by applicants of a greater level of detail than is currently required, in regard to critical areas of a building, and where a design is complex, technically challenging, untested, or intricate. Information must be project-specific and require a minimum of interpretation by on-site operatives.

12 As a matter of urgency, the Building Industry Authority produce, and distribute to all territorial authorities, standard sets of documents showing acceptable ‘best practice’ for construction information for different classes of building. We do not recommend any amendment to section 33(2) of the Building Act.

- 13 The practice of stating in building consent applications that materials and systems covered by the building code are ‘to be advised’ or to be substituted with ‘equivalent’ materials, products or systems after building consent is given, be more rigorously controlled.
- 14 The Building Industry Authority give priority to the production of comprehensive, clear, simple-to-use information, and guidance on building control matters.
- 15 As part of the Building Industry Authority’s accreditation process, ‘whole system’ testing and proving in New Zealand conditions of building products and systems be required. This may require mandatory accreditation of certain categories of products or systems.
- 16 Each sector of the construction industry is encouraged to take responsibility for developing a code of practice to provide for written and graphical methods that show how to comply with the relevant clauses of the building code.
- 17 The prescribed period for consideration of a building consent application be reviewed to allow for the thorough scrutiny of applications.
- 18 Clear standards be developed for the level of proof required for vetting agencies to be ‘satisfied on reasonable grounds’ that a particular product or system satisfies the requirements of the building code.
- 19 Given the complexity and supercritical nature of some recently introduced products and systems, and their utilization in a deskilled industry context, we consider greater levels of education and knowledge about such systems amongst vetting agencies should be demanded.
- 20 There be a mandatory obligation when making an alternative solution application for manufacturers to produce comprehensive testing data, technical information, and generic, true-to-scale drawings in relation to the major products and systems to be used.
- 21 Consideration be given to the appropriateness of a fixed fee regime for building consents set by the Building Industry Authority or other schemes such as a maximum fee regime.
- 22 Clear guidelines be established that create a ‘level playing field’ between territorial authorities and building certifiers by clearly defining the requirements for consents documentation to provide consistency and prevent quality undercutting in fee-bidding situations.
- 23 A review of the territorial authorities’ consents processing regime be undertaken to ensure that building departments of territorial authorities are adequately resourced to be able to properly carry out their consents appraisal responsibilities. However, we expect any review of the consents processing regime fee structure to be tempered by the need to maintain a ‘level playing field’ environment between territorial authorities and building certifiers.

Part 5 Building Inspection Regime

Introduction

Most of the submitters who comment on the building inspection regime consider that there must be improvements to the types and numbers of inspections, particularly in regard to critical weathertightness elements, and stages in the construction process. Submitters support the development of guidelines or a code of practice that would specify what must be inspected, clarify the role of territorial authorities, define the responsibilities of others involved in the industry, and provide consistency throughout the country and between inspection providers.

A number of submitters also propose that there be a suitably qualified and designated person, as the primary point of contact, to take responsibility for all work on a building site. This person would also liaise with building inspectors or building certifiers. A few submitters also address the appropriateness of the code compliance certificate.

We note the views of those submitters, mainly homeowners, and the general public who regard inspectors and certifiers as liable for the leaky building problem. However, territorial authorities and others in the building sector consider this view to be based on a misconception of the role of inspections and call for more publicity and education on the inspection regime. Other submitters want the role of inspections to be clarified in the Building Act, and raise concerns about the training and qualifications of inspectors and private building certifiers.

Background

Section 43(3) of the Act provides that:

- ... the territorial authority shall issue to the applicant in the prescribed form, on payment of any charge fixed by the territorial authority, a code compliance certificate, if it is satisfied on reasonable grounds that –
 - (a) The building work to which the certificate relates complies with the building code; or
 - (b) The building work to which the certificate relates complies with the building code to the extent authorised in terms of any previously approved waiver or modification of the building code contained in the building consent which relates to that work.

Similarly, section 56(3) of the Act also allows a building certifier to issue a code compliance certificate. Under section 34(4) of the Act, territorial authorities, but not private building certifiers, have the power to grant waivers or modifications of the building code and may issue a code compliance certificate if satisfied that the building work complies with the building code, subject to any previously approved waivers or modifications. However, section 76 of the Act gives territorial authorities wide powers to inspect any building work in progress, and also any existing building, noting that territorial authority inspectors cannot enter any private house or flat being used without the permission of the occupants or a court order. Building certifiers get their powers of inspection through their contracts of engagement.

We note that the Act, while it facilitates inspections, contains no specific requirements that territorial authorities or building certifiers must undertake any particular inspections. The only requirement is that they must be 'satisfied on reasonable grounds' as to compliance with the building code.

Improving inspection regime

Submitters who address this term of reference generally consider that inspections relating to weathertightness need improving. We note the observation made by the New Zealand Institute of Forestry that as building standards are now more performance-based, and not prescriptive, more weight is placed on inspection.

A submitter states:

While we accept that houses have been built by incompetent tradespeople, we understand that by insisting to have a compliance certificate, faults and non-compliance to the drawings would show up. This has proved to be an absolute fallacy and [we] believe that the Council has to accept some responsibility ... The further we go into this the more one realises the Government authorities, the council authorities are nowhere near as efficient and reliable as they were under the old code. While everybody complained about the building inspector we at least knew he inspected things.

The six Auckland territorial authorities consider that the building inspection regime should be clarified to provide guidance on minimum prescribed standards for the type and manner of inspections. For example, the authorities believe that if weathertightness details were included in the building consent documents, the building inspector or certifier could inspect the work and ask for compliance with these details. The authorities consider that this would provide consistency, reduce conflict on-site, and upskill the installer. They also want product manufacturers to specify key quality assurance inspections.

The Law Society supports making the inspection and certification process more rigorous, and ensuring that it specifically addresses weathertightness issues and has particular regard to the New Zealand environment. It considers that there should be a combination of increased detail and additional inspections at the time the exterior envelope of a building is being sealed. The society considers that the Building Industry Authority should be charged with ascertaining the optimum balance between more detail and more inspections.

Other submitters also relate inspection standards to matters concerning the level of detail required in building consent applications, the building code, and other requirements, and to the improvements requested to these. The New Zealand Construction Industry Council says inspection standards relate to the minimum standards set by the building code. It considers that, all too often, minimum standards set by the code have become the maximum. We note the examples provided to us by some homeowners of inadequate inspections. One submitter considers that poor inspections have occurred because of territorial authorities' adoption of inadequate control practices, resulting from delegation, privatisation, and a general withdrawal from any close monitoring practice.

However, we note the views of a few submitters, and this includes Architectural Designers New Zealand, who do not consider that any change to the inspection regime is needed, as

no amount of inspection can ensure a weathertight building. These submitters consider that any increase to the inspection regime would be unacceptable, cumbersome, and expensive. One submitter expresses concern about the effect increased compliance costs in relation to inspections would have on the owner-builder. Nonetheless, we consider that the trade-off against increased costs for improved inspections in the short term will be improved quality homes in the long term.

We note the comments of Local Government New Zealand that many local authorities have already reviewed their inspection regimes to include:

- checklists of aspects of construction that may be vulnerable to weathertightness
- increases in the number of inspections
- adoption of a more structured approach to those inspections.

The Wanganui District Council told us that it doubts whether any new 'leaky buildings' are being given building consent approval, as building inspectors and certifiers are now acting with greater caution and awareness. While we are pleased to see the steps some territorial authorities are taking to improve their building regimes, we agree with the Franklin District Council that legislative change is needed to make certain inspections mandatory.

Number and type of inspections

Several submitters consider that there should be an increase in the number of inspections relating to weathertightness, particularly for buildings at higher risk, such as those with monolithic cladding. Other submitters outline what stages should be inspected, such as improved cladding inspection, a physical check of the building envelope before internal linings are put in place, and re-inspection on completion before the code compliance certificate is issued. The building elements that submitters propose should be inspected include: building wrap, flashings, air seals, roof flashing, external deck membrane, internal shower membrane, and a facade engineering review by a competent person.

We note the comments of the Whakatane District Council that the emphasis on minimising compliance costs in the Building Act resulted in it restricting the frequency of inspections to key stages of construction. We are pleased to see that the council intends to carry out more than the minimum number of inspections, including random inspections, and that it intends to recalculate the length of inspection time, allowing time for some education of tradespeople on building sites, rather than just focussing on construction compliance.

The Consumers' Institute considers it is not so much a question of the number of inspections, but the detailed knowledge of modern building materials that is required by building inspectors and certifiers. The Law Society considers that, while increasing the frequency of inspections is important, it is the timing of those inspections that is key. It proposes that critical stage inspections should be mandatory. The Consumers' Institute also wants inspections to be undertaken at critical points of construction relating to weathertightness and before occupancy.

In calling for the upgrading of the inspection regime, the Applied Technology Institute, UNITEC, proposes regular observation of buildings over a certain value, and that this

observation should occur on-site, on a possibly constant basis. New Zealand Metal Roofing Manufacturers suggest that, at consent stage for territorial authorities, and at inspection stage for inspectors or certifiers, there should be a request for proof that work will be, or has been, done by a registered tradesperson. Another submitter considers that all new homes should require watertightness certification by two separate certifiers.

We note the six Auckland territorial authorities want the Building Industry Authority to decide on the exact number of inspections. One of the authorities states:

Unfortunately the competitive nature of the inspection process between the various private certifiers and a territorial authority does not lead to a uniform approach that necessarily achieves this result. In their efforts to keep costs down and gain the work, the certifying agent, be it private or public, will tend not to do extra inspections even though it would be desirable.

Guidelines or code of practice

Most submitters who ask for improved and increased inspections in regard to weathertightness consider guidelines, checklists, risk classification systems, or a code of practice are needed for the types and numbers of inspections. These submitters consider that guidelines or a code of practice would ensure national consistency and consistency across inspection providers, clarify the role of territorial authorities, and define the responsibilities of others involved in the industry, so that building inspectors can ensure correct procedures have been followed and construction can be checked against contract documents. GR Bayley and Associates, considers that guidelines would also assist with leak inspections, liability determination, technical issues, and remedial works. One submitter is not so committed to checklists, as he considers that detailed checklists can become just a 'box-ticking' exercise with little regard to compliance.

The New Zealand Registered Master Builders' Federation proposes that a risk classification system associated with design, locality and critical building systems, and materials be established to guide inspectors as to the number and type of inspections. It also suggests introducing a probationary period for new critical building systems and materials with additional and specific inspections.

The New Zealand Institute of Architects submits that Regulation 7 of the Building Regulations 1992 should include 'notifiable' items that relate to weathertightness. In the meantime, a suitable list of items should be devised under 'any other building work', and be promulgated by the Building Industry Authority. These matters should be able to be satisfied by a producer statement from an approved provider. The Whakatane District Council confirms there is common acceptance of producer statements from cladding system installers to achieve the test of being 'reasonably satisfied'. However, BRANZ submits that there is currently considerable abuse of the producer statement regime, and that much more explicit guidelines, and possibly legislative control are needed on what these can constitute and how they can be used. Another submitter, a building certifier, wants a code of practice to include written reports for all inspections – covering specified matters – with a copy provided to the owner.

Some submitters support the Hunn Report recommendation that the Building Industry Authority formulate a code of practice for inspection. The six Auckland territorial

authorities also consider that the authority needs to be directed to review both the guidelines and the inspection regime on a regular basis in respect of the quality of standards, the level of assurance, and confidence provided by the regime. Two territorial authorities support the Building Officials' Institute of New Zealand proposal to formulate inspection guidelines.

We note Standards New Zealand has offered its independence and expertise to manage a consensus process to develop inspection guidelines, as part of the code compliance certification process, and the interpretation of the Building Act and companion documents.

Role of inspections

We note the views of submitters about improving the types and numbers of inspections are tempered by an awareness of the limits of the inspection role. While some homeowners appear to blame deficiencies on inadequate inspections if faults are later found in their home, other submitters consider it is the prime responsibility of the builder and others involved in the construction process. Those submitters that consider 'inspection' is responsible for defects made the following comments:

- The responsibility and cost of rectification should still lie with the certifying authority and there should be a review of the certification process, and reassessment of quality standards, certification process resourcing and consumer grievance management.
- Territorial authorities should be responsible for leaks that should have been found by building inspectors.
- As councils carry out inspections, they should be responsible for any defects in a building as a result of inferior workmanship.
- Building control officers are not doing their job – territorial authorities are the negligent parties.
- It is up to councils and the Government to issue an unequivocal statement that damage caused by substandard buildings, which have been approved by building inspectors, is the responsibility of those councils.
- Inspectors should be personally liable; that is, they can lose their job if found to be negligent.

Other submitters blame the building sector for defects, and comment that:

- The contractor, rather than building inspector, should carry ultimate responsibility for the standard of construction and labour-only contracts by building owners should be banned.
- Builders should be held exclusively liable for the proper execution of work, unless failure is attributable to somebody else.
- A council or building certifier should only be liable if he or she is found to be negligent, and even in those cases the greater measure of damages will generally lie against the builder, with a share possibly attributed to other parties, such as the architect, engineer, or materials supplier.

Territorial authorities are concerned that the public has a misconception of the role of inspection, and point out that they cannot provide constant oversight or provide a guarantee that every element of the work is up to standard. The authorities tell us they are often targets of legal action in this regard, and call for publicity and education. Other submitters request legislative clarification of the inspection role. The Wellington City Council expressed its concern that, despite territorial authorities generally receiving good audit reports from the Building Industry Authority, their practices and competence are now being questioned. The following are comments made by some of the submitters on the limits of inspection:

- Recognition should be given to the nature and limitations of the territorial authorities' role in inspection.
- Consumers have an unreasonable expectation about what can be achieved during the inspection process.
- A building inspector is not a 'clerk of works' and cannot be expected to monitor and be responsible for the quality of work on a building site. The on-site building inspection process takes, on average, six to eight hours out of a typical 2000 hours needed to complete a dwelling.
- There is concern regarding the general perception that the issuing of a certificate acts as a guarantee for the work.
- No amount of inspection can ensure a weathertight building. The legal effect of code compliance certificates should be clarified by legislation – there should be some limitation of liability for the issuer.
- Clear guidelines are needed regarding the extent to which territorial authorities can be responsible for waterproofing issues. These would assist people in realising they cannot rely on territorial authorities for this role.
- The Building Act should define and limit the inspection role of territorial authorities with a liability limitation.
- It would be helpful if the Building Act defined being 'satisfied on reasonable grounds'.

Designated or responsible person on-site

A number of submitters propose that an independent supervision regime be re-introduced, which would require a suitably qualified designated person, based on the 'clerk of works' model, to be the primary point of contact on site, particularly for projects over a certain size. Submitters suggest that this person would be identified in the building consent documentation, be the liaison point for inspection, and be responsible for all work on site.

Building code compliance certificate

Some territorial authorities expressed their concern about owners frequently not applying for the building code compliance certificate as soon as building work is complete. Other authorities suggest a time limit, such as 12 months from completion of the building work. This would allow for factors such as the size of the project and the 'do-it-yourself' builder to be considered.

The Law Society wants the schedule of required maintenance checks to be provided by the builder, developer or other nominated person as part of the code compliance certification process. It also proposes a sign-off by the building inspector or certifier concerning the weatherproof condition of the building as part of the certificate.

Another submitter considers that the inspection regime for code compliance certification is flawed and that the Building Industry Authority should design a quality assurance compliance certificate similar to quality assurance records used in the manufacturing sector, with penalties for non-compliance. One authority also suggests doing away with the code compliance certificate, and another submitter considers that registered builders should be able to register their own producer statement with the territorial authority, rather than requiring a code compliance certificate. We note the comments of one submitter who supports the Hunn Report concept of an 'occupancy certificate'.

Training and qualifications

We note the views of those submitters who consider that there should be specific training and qualifications for building inspectors and certifiers, as the inspection regime appears to be suffering from a lack of experienced and skilled staff. BRANZ also believes there is a problem with the current skill level of territorial authority inspectors. It says the level of proven proficiency that entitled an inspector to approve work under the Building Act should be raised, and that continued entitlement to approve should be conditional upon compulsory continuing professional development programmes. The New Zealand Certified Builders Association says that just being an ex-builder is not sufficient grounds to undertake the work of a building inspector or certifier.

Generally, most submitters wish to see a higher level of professionalism established, and a commitment to ongoing professional development of building inspectors and certifiers. Suggestions include a qualification such as the discontinued New Zealand Certificate in Building Inspection, ongoing professional development, annual certificates, and membership of a professional organisation such as the Building Officials' Institute of New Zealand. The Building Industry Authority has even commented that building inspectors should be highly trained, qualified and registered.

Audits

The Consumers' Institute and other submitters consider that there should be independent audits to ensure ongoing competency of building certifiers, with ongoing professional development. The Wellington City Council refers to the New South Wales Joint Select Committee on the Quality of Buildings July 2002 report, and would like the Building Industry Authority to develop best practice standards as part of its certification and monitoring of certifiers and territorial authorities.

We note the concerns of the submitter Alexander and Company about under-resourcing by territorial authorities of building departments. It calls for the independent investigation of Building Industry Authority's auditing of territorial authorities, as it considers this has been ineffective in some cases. Another submitter wants territorial authority chief executives to be required to attend periodic workshops on their responsibilities under the Building Act, and on the implications of this for their building control staff.

Comment

Given the views expressed by submitters about the inadequacy of the current inspection regime, we inquired into its purpose and considered whether the code compliance certificate process was effective. It is a concern that most of the submitters to this inquiry consider that the current inspection regime is deficient. It is also a concern that territorial authorities, private building certifiers, and the general public have different views on the role of building inspections.

The public perception appears to be that the periodic inspections by the building inspector or a private building certifier and the issuing of a code compliance certificate guarantees that a building complies with the building code. Under the current legislation this may be an unrealistic expectation.

The territorial authorities contend that as building inspections can only assess the work that is visible when inspections are carried out they cannot possibly guarantee that a building complies with the building code. Their role in issuing a code compliance certificate is to indicate that they are satisfied on reasonable grounds that the building complies with the building code. We were advised that if, at a later date, the building is found not to comply with the code, in some way, it is the current owner of the building who is responsible for any remedial work.

There is currently no defined requirement or guideline for the type, number, content, structuring, or rigour of inspections to be carried out by building certifiers or territorial authority building inspectors. Most certifiers and inspectors do carry out on-site inspections at intervals during the progress of the building work and at its completion prior to the issue of a code compliance certificate. However, as this is not mandatory there is significant variation in the amount and quality of inspections actually carried out. The financial pressures and incentives all appear to be aimed towards minimising the number of inspections carried out. Some territorial authorities told us that a total of between five and six hours of on-site inspection might occur, compared with something of the order of 2000 hours of work carried out on site by building operatives during the construction of a typical single family home.

Given the uncertainty surrounding the role of a building inspection, the term ‘code compliance certificate’ may be misleading, particularly as it does not certify compliance with the building code. It merely signifies that, in view of all the information to hand, and the inspections, which have taken place, that the building appears to comply with the code.

The public at large has come to rely solely on building certifiers or building inspectors to carry out on-site inspections. We understand that very few house owners today commission anyone to carry out independent inspections while a new house is being built. In the case of speculative development there is no incentive for building developers to even consider paying for independent inspections. This raises questions as to the level of certainty a building owner will be willing to pay for, and the level of certainty society is willing to provide as the minimum acceptable standard in protecting consumers and the national interest.

Way forward – practical solutions

The basic reason for inspections is to ensure there is some independent verification that the building under construction is being built in accordance with the building code. Most submitters agree there is a need to establish clear requirements of inspections, and to increase the number, rigour, and structuring of inspections carried out by building inspectors and building certifiers.

We note that the Building Officials' Institute of New Zealand has initiated the development of a code of practice for building inspections. While we support such a step being taken, we consider that the Building Industry Authority and possibly BRANZ should involve themselves in this initiative to ensure compatibility with national objectives.

We wish to see included in such a code of practice:

- Clear guidelines that establish a 'level playing field' by clearly defining numbers, timing and the nature or rigour of each inspection. This would provide consistency and prevent quality undercutting in fee-bidding situations.
- Checklists and risk classification systems that might help to provide clarity in terms of expectations.
- Identification of building constructions that are more at risk of failure, and therefore in need of a greater number of more detailed inspections.
- Responsibility and liability of territorial authority and private building certifier to the owner.

We consider that improving the inspection regime will improve certainty regarding the issuing of the code compliance certificate, and ensure some improvement in quality, but it will not ensure consistently good workmanship – that is in the hands of the builder. Where defective work is discovered the territorial authorities must be allowed to charge the builder for re-inspection. Consideration might be given to penalties for non-compliance and shoddy workmanship. The only current penalty is for the work to be redone to standard if inadequacy is discovered, so in some cases builders are prepared to gamble that inadequate work will not be unearthed, which allows them to make bigger profits.

We consider that there is a clear need for building departments of territorial authorities to be properly resourced, which would require a review of the fee structure. If more work is required of the inspectors, then it will clearly cost more. Several submitters see cost competition, in a regulatory environment that results in cutting corners as a reason for a reduction in the quality and quantity of building inspections. Consideration might be given to initiating a standard fee structure that is set by the Building Industry Authority, and then competition could be on quality of service. The current system seems to reward corner-cutting practices and encourage inspectors to 'turn a blind eye'. This is another consequence of inappropriate cost competition practices. All of this will cost more financially, but it may be considered necessary to restore confidence and improve quality standards.

We note the views of those submitters who suggest the need for more stringent auditing of quality standards by both the Building Industry Authority and territorial authorities. Other submitters suggest that some inspections should occur unannounced.

There is an assumption that building inspectors know what to look for when they are inspecting. However, with the proliferation of new systems, we consider that this should not be taken for granted. There may even be a need for specialist inspectors due to increased constructional complexity and a proliferation of different products and systems. The possible amalgamation of building departments of small territorial authorities into regional groupings – which would have resources – and the spread of necessary expertise to ensure maintenance and enhancement of quality standards, might be considered.

The public needs to be made aware that a code compliance certificate is not a guarantee of compliance, that territorial authority and building certifier inspections are not equivalent to the more frequent inspections carried out by the architect, engineer, designer or clerk of works. While these inspections mean increased certainty and less risk, ultimately there is no absolute certainty of code compliance. We consider pamphlets clearly stating this situation need to be prepared and disseminated by the Building Industry Authority. Perhaps they could be included with every building consent information pack.

Consideration might also be given to the date that liability commences. Currently it is from the issue of a code compliance certificate but many people do not apply for the certificate and this has the effect of unfairly extending liability. Therefore we would like to see consideration given to other mechanisms, such as a mandatory occupancy certificate in addition to, or instead of a code compliance certificate. The occupancy certificate, would in that situation, become the commencement date for liability of any work completed at the date of certification. Much like a warrant of fitness, such a certificate might have to be renewed on a periodic basis after re-inspection, to ensure that minimum standards of health and safety were being maintained.

We consider there needs to be a review to assess the level of certainty the country wishes to provide as the minimum acceptable standard in protecting consumers and the national interest with respect to ensuring compliance with the building code and the role of inspections and the code compliance certificate in such assurance. The builder is clearly responsible for defective work carried out on-site and should be held accountable and liable, just as the designer is for defective design.

If there were a requirement for registration and certification of the on-site builder then it would make sense for this person to certify his or her own work and that of any other building practitioners engaged by them including the designer and sub trades, and any other building work carried out on-site. Under this system the designer and all subtrades would also be required to certify their work to ‘the builder’. This method would establish clear lines of responsibility and accountability. We accept this model would need time to be put into place, but it is in many ways not new – we understand it would simply update and formalise a situation that used to occur on building sites as the unwritten norm. Under this model the builder would remain responsible for non-compliant work rather than the owner. The problem of ‘phoenix’ building companies may need to be addressed in this model. Some submitters suggest that a company should either provide a personal guarantee from a qualified person (director, builder or a clerk of works) or provide a bond for at least 10 years.

There would still be some potential liability on the part of the building certifier or territorial authority for negligence in the carrying out of inspections, but this would be much easier to

establish if there was greater clarity in the duties, responsibilities and consequent liability of inspectors. A similar basis for claim should be applied to other parties, including architects, engineers, and clerks of works.

We consider that all of the above matters would seem to be fit topics for consideration by the review committee examining the Building Act.

Summary of recommendations

We recommend to the Government that:

24 As a matter of urgency, a code of practice be developed that prescribes what the building inspection regime is required to accomplish. To ensure the focus of 'inspection' is on compliance, rather than the quantity of inspections carried out, any criteria established must be performance-based.

25 Any code of practice for building inspection needs to include:

- Clear guidelines that establish a 'level playing field' by clearly defining numbers, timing and nature or rigour of each inspection to provide consistency and prevent quality undercutting in fee-bidding situations.
- Checklists and risk classification systems that might help to provide clarity in terms of expectations.
- Identification of building constructions that are more at risk of failure and therefore need a greater number of, and more detailed inspections.
- Responsibility and liability of territorial authority and private building certifier to the owner.

26 To ensure consistently good standards of work by the builder, we consider that where defective work is discovered the territorial authority be allowed to charge the builder for re-inspection.

27 Consideration is given to imposing penalties on the builder for non-compliance with the building code and poor standards of work.

28 A review of the territorial authorities' inspection regime fee structure be undertaken to ensure that building departments of territorial authorities are properly resourced to be able to carry out any increased building inspection responsibilities. However, we expect any review of the inspection regime fee structure to be tempered by the need to maintain a 'level playing field' environment between territorial authorities and private building certifiers.

29 As a matter of urgency, new criteria that prescribe what the code compliance certificate is required to accomplish be developed. Such criteria must outline the responsibilities of territorial authorities under the Housing Improvement Regulations 1947 (under the Health Act 1956) and emphasis given to the current requirements of the Building Act 1991 to protect people (their health and safety) and the environment.

30 A mechanism be created that will make it mandatory for a code compliance certificate to be issued within a certain period from the time the building is completed.

Consideration of this matter needs to include investigating the appropriateness of requiring a mandatory occupancy certificate in addition to, or instead of a code compliance certificate

31 All building inspectors and private building certifiers must be qualified and certified. We expect a commitment from territorial authorities and the Building Industry Authority to ongoing professional development.

32 The responsibilities of the territorial authority and building certifier be clearly defined to owners of buildings.

33 More stringent auditing of quality standards is required by both the Building Industry Authority and territorial authorities. We expect the Building Industry Authority to develop an audit regime to ensure compliance by the territorial authorities with the code compliance certificate process and, for established buildings, the land information memoranda process.

34 The public is educated on the actual purpose and level of certainty provided by building inspector and building certifier inspections, the issuing of the code compliance certificate, and the responsibilities of the owner.

35 The duties and responsibilities of the owner and builder, in respect to compliance with the building code and the building consent also need to be prescribed.

Part 6 Split Responsibility between Territorial Authorities and Private Building Certifiers

Introduction

Submitters who comment on this term of reference include territorial local authorities, industry organisations, building consultants and homeowners. Submitters are divided on the issue of split responsibility among private building certifiers and territorial authorities, including territorial authorities themselves. Many submitters make reference to a 'level playing field', which they do not consider is yet achieved, partly because territorial authorities are perceived to subsidise their building consent operations from other sources of revenue to the disadvantage of private certifiers, and partly because private certifiers are themselves seen as taking on only profitable work. Competition is perceived to have both benefits and drawbacks.

Another concern of submitters is the perceived conflict between the territorial authorities' role as regulator and service provider. Further concerns resulting from the split responsibilities, are the variability in standards and unclear lines of responsibilities, where certifiers are able to do some work, and not other aspects, or when certifiers leave part way through an inspection and certification process, leaving it up to another certifier or the territorial authority to take over and complete the work. Submitters suggest options for changes, ranging from only permitting territorial authorities to carry out inspection and certification work, to only having private certifiers who can carry out the whole range of consent, inspection and building code compliance certification work, including enforcement. Clarification of roles and responsibilities and effective oversight are also called for. Submitters also raise the issue of insurance cover for private certifiers.

Alexander and Company considers that the issue of split responsibility is an unnecessarily narrow focus for an investigation into the functioning of territorial authorities and building certifiers. The firm believes this is a matter that is best addressed by selected building industry experts.

We note the Building Industry Authority considers that, in effect, the Building Act provides that the territorial authority must approve anything not certified by a building certifier. This means that no building certifier may certify work outside the scope of approval by an authority. In many cases a certifier will be responsible for checking that some building work complies with the building code, while the territorial authority will be responsible for the rest. The authority says:

Authority staff are not aware of any specific case where the split of responsibility has caused any significant problems. However, authority staff recognise that, in some cases, there is robust competition between building certifiers and territorial authorities.

The authority points out that there is nothing to prevent a certifier from certifying plans and specifications at building consent stage even though the certifier is not engaged to inspect the building work considered. Similarly, there is nothing in the Act to prevent a building certifier from inspecting and certifying work even though the certifier has not certified the plans and specifications for that work. A certifier cannot issue a building consent, but the territorial authority must grant a consent if satisfied on reasonable grounds

as to compliance with the building code and must accept a building certifier's certificate as establishing compliance with the code for the part of the work which it covers.

Local Government New Zealand told us that territorial authorities have mixed views about the benefit of creating a regime that allows the operation of contestable independent certifiers. It calls for a complete review of the independent certifier regime.

We note some submissions from territorial authorities report on the proportion of inspection work carried out by private certifiers. This is stated to amount to 34 percent of all building approvals in New Zealand, ranging from virtually none in Dunedin, to three certifiers in Wellington, to 20 percent in Auckland, and the rest in Tauranga.

Choice - contestability

About half of the submitters who address the issue of a contestable building certification system support it, but consider some aspects of it require change. Those submitters who do not support the current system suggest reverting to territorial authorities only, or allowing only private certifiers. Submitters that both support and oppose the current system do not consider it to be a 'level playing field' at present, saying that territorial authorities have an unfair advantage because they can subsidise their inspection and certification work from other revenue, and because private certifiers can choose to do only profitable work, forcing territorial authorities to do the rest. In addition, private certifiers cannot carry out the whole range of inspection and certification work.

Submitters consider that the consequences of competition are seen to include:

- variability and lowered standards, which are perceived to affect both territorial authorities and private certifiers
- a conflict between the roles of territorial authorities as a regulator and as a service provider.

Many of the submitters who support having both private certifiers and territorial authorities carrying out this work perceive the need for a range of changes. These focus on:

- the need for an effective oversight mechanism
- the need to clarify responsibilities when certifiers hand over work
- options for increasing the range of work certifiers may carry out, including enforcement.

Support for current system

The Consumers' Institute supports the current system remaining substantially unchanged, as consumers have benefitted from the competitive market. However, the institute considers it has led to fragmentation and variability in standards and created a tension and potential for conflict of interest, given that territorial authorities are both a regulator and service provider. The institute goes on to say that a return to the old system would allow the development of unrestrained bureaucracies and associated cost increases that would inevitably be passed on to consumers.

The institute considers that the exclusion of territorial authorities from the inspection and certification process would create a clear division between regulator and service provider. However, as recent events in Auckland have shown with the closure of a certification company, the institute considers there is a need for a provider of last resort, and that inevitably is going to fall on a territorial authority. The institute recommends regular audits of territorial authorities to ensure they are not taking advantage of their privileged position of regulator and service provider.

Another submitter regards the split responsibility as an evolving system, which is better than centralising on territorial authorities alone. However, the submitter considers that monitoring by a central authority and backing by a building code is necessary.

The New Zealand Certified Builders Association considers it is important that private certifiers remain in the building industry. The association considers that this offers a level of service that many territorial authorities cannot provide. It considers private certifiers are far more flexible in their delivery of service, and that in many instances, they offer a much more consistent interpretation of the building code.

The six Auckland territorial authorities say:

There is no doubt in our minds that the availability of choice has been good for the industry and has been the catalyst for a much improved service now being offered by territorial authorities. However, the introduction of competitors in the market has in our view contributed to the focus shifting from a regulatory role to that of providing customer satisfaction. This has resulted in builders and developers pitting certifier against territorial authorities for their business, which has had a detrimental effect.

Another territorial authority would like to see the current system continue, provided that both are adequately resourced with appropriately qualified people. However, it wants the roles and responsibilities re-evaluated to provide a more transparent system to ensure that the inspection process is thorough and effective. It says there are instances where building consents have been declined by one sector and approved by the other. The authority comments that there are also situations where a private certifier has withdrawn services when territorial authorities are required to take over inspection.

The Manukau City Council is also supportive of the existing choice. It considers that, if private certifiers were to disappear, territorial authorities are unlikely to have the infrastructure in place to immediately manage the new responsibilities. Existing certifiers would be lost to the industry and so would the benefits of consumers having a choice.

Against current system

A few submitters want one system to be run by territorial authorities. One submitter considers that the introduction of building certifiers was a flawed idea and that competition should have no place in determining what is in the public interest. The submitter also considers that the cost of professional indemnity insurance is too high for them to make a reasonable financial surplus. Therefore only truly independent officers working with a public body should be entrusted with certifying buildings in the public interest. The submitter recommends that the place of building certifiers be gradually withdrawn from the Building Act.

Another submitter believes that using private certifiers to issue code compliance certificates has contributed to a lower standard of inspection, as to remain competitive, they have reduced costs by reducing the time taken in inspecting buildings.

The Franklin District Council believes there is a need to revoke or amend the provisions allowing private certification, as contestability in the regulatory environment is not conducive to the achievement of building code compliance. The council comments that the competitive nature of the inspection process does not lead to a uniform or consistent approach and has caused inspection standards to decline to the lowest level in the certifying market. It states:

Our experience has convinced us that it has not served the industry or the community well. Territorial authorities service the community but private certifiers usually have the builder, who normally contracts and pays a private certifier, as their ultimate client. The contractual relationship between a builder and private certifier offers a distinct incentive to distort any compliance and enforcement of the law because of the commercial reality of the situation.

A few submitters who oppose the current system want one system carried out by private certifiers, or some other system. BRANZ considers that both the territorial authority, building officials, and building certifiers should be subject to the same statutory engagement, rules, education and continuing professional development, and auditing of their performance. It recommends following overseas trends that see all inspection and certification being done by professional building certifiers, with territorial authorities only responsible for record keeping. The Building Industry Authority would monitor the whole process.

A submitter reported instances to us of serious errors of judgement by the territorial authorities in providing code compliance certificates. This submitter considers that the main issue is whether there should be continued use of the traditional building inspector, or whether there should be only specialised certifiers or inspectors for separate aspects of a new building.

Hawkes Bay Building Certifiers and Consultants state that territorial authorities have attempted to frustrate the building certifiers by not separating the Project Information Memoranda from building consents, and that they have subsidised building consent administration from the councils' general rate fund. Certifiers, having in most cases had building control experience with councils, and had their skill levels tested at the time of their application, could be considered more experienced and efficient. However, they have limited their degree of service to compete on a cost basis with councils' subsidised costs. The firm would like councils to be legislated to separate building consent and inspection processing from other council activities, or for a national body to be fully funded from charges for the service and required to have the same insurance cover. The councils would then become 'libraries' for the storage of records.

Private certifiers' scope and powers

The New Zealand Certified Builders Association suggests certifiers should be given some powers of authority to enable them to carry out their job better and levelling the playing field between the two regulatory control suppliers in what is supposed to be a fair and

competitive environment, but which presently is not, as territorial authorities have an unfair advantage.

Several territorial authorities comment on the issue of the limitations of private certifiers in the building consents, inspections, and code compliance certification processes, and the resultant transfer of work. They provide detailed information on their experiences and views in regard to private certifiers' work.

Local Government New Zealand reports that most local authorities do not wish to carry responsibility for those independent certifiers who are unable to fulfil all aspects of their tasks, either because of limited insurance cover, or because of a default on particular aspects of their inspection and certification activities.

The Christchurch City Council says that as building certifiers only have limited scope in which they operate, it means that instead of a clear-cut responsibility by way of a building certificate covering all the work, there is a combination of certifier and territorial input. It also means the territorial authority has to check the scope of the certifier, review the drawings to see whether the work is within the scope, and consider any outstanding items. There are also problems with ascertaining certifiers' scope of approval in various cases, as the terms are open to wide interpretation, such as 'ordinary' buildings, unusual uses, or methods. The council supports more rigorous definitions where building certifiers have limited scope.

The six Auckland territorial authorities tell us that private building certifiers sometimes need to hand over certification work-in-progress to either another private certifier (if one is available) or to a territorial authority. The interface between territorial authorities and private certifiers is a key issue for territorial authorities, particularly in rural areas where the territorial authority may have no choice but to accept the work. The Wellington City Council wants the Government's review of the Building Act to look at including new provisions to deal with the issues when a certifier ceases trading or is unable to perform its statutory functions.

The Kapiti Coast District Council says there is a need to reassess private certifiers' limitations on alternative solutions. It questions the logic in limiting some building certifiers in the approval process of monolithic claddings (alternative solutions) – which it states is an increasing trend in their certificate renewals – yet permitting the on-site inspection and approval of those claddings. The council considers that if an item is outside a certifier's scope, and is therefore required to be approved by the territorial authority, the inspection of that item should also fall within the responsibility of the territorial authority. It considers such a situation to be untenable, and states that it highlights the difficulties with split responsibilities. Certifiers should either be permitted to be responsible for the whole process of monolithic claddings while they remain alternative solutions, or the building code should be changed to bring monolithic cladding within the scope of its clause E2/AS1. The council says there are also other areas of the building code where similar situations arise.

The Whakatane District Council told us that a number of issues have arisen in relation to the quality and scope of building certifier work. It does not support the concerns of the Ministerial Panel on Business Compliance Costs July 2001 report that territorial authorities

had a monopoly on issuing building consents. Territorial authorities are required to have an overview of building activities within their districts, issuing building consents enables them to monitor new building work, confirm compliance with district plans, receiving building records essential for land information memoranda. Certifiers should not be able to certify plans and specifications for building consent approval and withdraw from the higher risk construction phase of the project, as is commonly experienced by the council. It considers the split in roles has proved confusing to applicants and tradespersons.

However, the Franklin District Council says that instead of large multi-disciplinary companies becoming certifiers, individuals and small groups have led to a more fragmented approach. The council considers that an individual with private certifier status should not be able to employ other persons to carry out his or her functions, as they may not be controlled to an adequate degree. The council questions whether corporate private certifiers, that are allowed to use other experts, such as consulting engineers, are using them when they should, given that the signature to any certification often does not include these other experts. In its experience, private certifiers tend to take on certifying work associated with volume type housing and multi-unit housing in urban areas and leave the rural areas with higher servicing costs to the territorial authority.

The Franklin District Council goes on to state that there have been occasions when competition has seen the enforcement provisions compromised by a builder threatening to go to a private certifier. This has led to a perception that the builder can get away with a lesser standard by employing a private certifier. In its experience, when contractual relationships between a builder and private certifier fail, or when enforcement becomes an issue, it is too easy for the certifier to transfer the 'problem project' to the territorial authority that must pick it up. The council asked the committee to investigate the circumstances it is aware of where monolithic claddings, as an alternative solution (rather than an acceptable solution) have been approved by private certifiers outside the scope of their Building Industry Authority approval as a certifier. It also contends that on occasions the authority has condoned a certifier extending his or her inspection capability beyond the normal limitation of approval as a private certifier.

The North Shore City Council recommends that certifiers be responsible for work they undertake from processing through to issuing of code compliance certificates – no exclusions should be allowed. It considers that the handing over of incomplete work of certifiers to councils is not acceptable and that there should be a different mechanism to manage incomplete jobs. It suggests another certifier should take over on behalf of the authority, which has the responsibility to manage that process. It considers that the authority should provide a back-up service for the completion of deregistered certifier work.

Enforcement – notice to rectify

The six Auckland territorial authorities requested the committee to investigate whether provision could be made for certifiers to be able to issue a notice to rectify. A territorial authority considers that certifiers should not have the discretion to refer matters on non-compliance to the territorial authority for enforcement proceedings. Legislative provision should be made to permit certifiers to resolve all non-compliance issues discovered – whether by negotiation, by applying to the authority for a determination, or by issuing a

notice to rectify – and consequential enforcement action. It recommends that the current review of the Building Act address these inequalities.

Responsibility and liability

The six Auckland territorial authorities asked for clarification with regard to responsibility and liability under section 50(3) of the Building Act, where an inspection process is undertaken by more than one party, such as a certifier and then a territorial authority, particularly in regard to the issue of final inspection and the code compliance certificate. One submitter considers that the role of territorial authorities and building certifiers needs to be strictly defined. The New Zealand Institute of Forestry also states that it is essential and sound management practice that responsibilities are clearly understood and that accountability sits with these responsibilities.

Wellington City Council says that the current legislation does not contemplate, and therefore provide a mechanism for, a territorial authority to take over work from a building certifier part way through a project. Of particular concern are the expectation of the owner regarding inspections which she or he may have prepaid, differences in judgement between territorial authorities and certifiers, the release of documentation, particularly the last inspections for which monthly reports may not have been forwarded to the territorial authority, and the issue of responsibility for compliance of work carried out before handover.

The Building Industry Authority states that if the certifier has properly worded the certificates, and if the territorial authority has properly read and understood them, there should be no doubt about who is responsible for what. The submitter, Architectural Designers New Zealand, also states that the Building Act already makes the responsibilities quite clear. The territorial authority, under section 56, must accept a certificate issued by a qualified certifier, and it follows that the responsibility for all issues covered by that certificate rests with the certifier. It suggests that territorial authorities should not issue consents or carry out inspections, because in doing, so they expose themselves and their ratepayers to unnecessary risk.

Professional indemnity insurance

Several submitters address the partial withdrawal of professional indemnity insurance from private certifiers. They asked the committee to look at the options, as without full insurance certifiers will not be able to carry out their roles in the industry. These submitters suggest getting the Building Industry Authority to resolve the insurance issues faced by certifiers. This could include the authority taking insurance responsibility for all certifier work.

Another submitter considers it unfair that the certifiers should be required to carry professional indemnity insurance, and that the insurance underwriters should base the risk on the whole building compliance sector. The submitter considers that councils do not have to carry the same insurance, yet their 'limited knowledge in building performance' can still have an effect on the commercial insurance market.

Oversight

A number of submitters consider that effective oversight of the current system be undertaken by the Building Industry Authority in conjunction with education and standard setting to address the problems outlined. One submitter, a building certifier notes that section 29 of the Building Act gives the Minister powers to take actions against territorial authorities for non-performance, but to date is not aware of any action being taken. The submitter says that it appears that territorial authorities are in full control of the building industry compliance and not the Building Industry Authority, and that, while the territorial authorities maintain this control, the building certifiers can only operate as a subordinate to them.

Comment

The major issue is whether to continue to have private building certifiers. There is almost an equal split between those submitters who favour the use of building certifiers and those who do not. Many submitters see the reduced costs and greater speed of throughput achieved as having been achieved largely through reduced quality, rather than improved efficiency.

We consider that if a decision is made to dispense with building certifiers it does not seem logical that they would be lost to the industry. There is still the same amount of work, so territorial authorities would presumably be seeking extra staff to carry out their increased workload. The United Future member believes that many territorial authorities would contract out inspections to former certifiers while retaining the sole responsibility for certification.

We are disturbed by reports that building consents have been declined by one sector and approved by another. Allegations that some developers, speculators or builders, acting as the original owner (employer), are exerting pressure on building certifiers to pass substandard work at both consent and inspection stages must be taken seriously. The potential for this situation to occur is apparent.

It is disturbing that territorial authorities and building certifiers seem to see themselves primarily as service providers, rather than regulators. The primary role of territorial authorities and building certifiers is as a regulator, acting to ensure that the building code is adhered to and standards are maintained. They should also seek to provide a high level of service, but that must be viewed as subservient to their primary role as agents who ensure compliance with the building regulations. However, inevitably the territorial authority will have to provide both inspection and certification services where there is no building certifier available to carry out the work. In practice this is likely to require almost all territorial authorities to have suitably qualified staff to do this work.

Territorial authorities are concerned about building certifiers being able, as of right, to hand over 'problem projects', partially completed work, and difficult or complex elements of work which the particular building certifier is not allowed by the authority to undertake. It is understandable that territorial authorities generally do not wish to just take on the difficult, time consuming parts of a project, or carry responsibility for those independent certifiers who are unable to, or simply do not wish to, fulfil all aspects of their regulatory responsibilities, either because of limited insurance cover or because of default on

particular aspects of their inspection and certification activities. We consider this clouds accountability and issues of liability. It is also a concern that it could mean a territorial authority is obliged to work through a project it believes should never have been given building consent in the first place.

Building certifiers do not currently have the authority to enforce a decision to condemn a piece of work. They must inform the territorial authority, which then has to deal with the problem. We consider this is cumbersome and counts against a building certifier condemning work in the first place. We note territorial authorities are very reluctant to get involved in what they see as ‘other people’s problems’, and we consider that this split has distorted lines of accountability and liability.

Way forward – practical solutions

National Party members wish to see contestability in the area of building certification retained. They consider that given the general agreement that improved documentation, adopting ‘best practice’ methods for construction information, consistency within the regulatory environment, and code of practice for inspections regime, the general public should continue to have access to use either territorial authority or private building certifier with a better understanding of services provided. National Party members do not therefore support the elimination of contestability, which they consider would lead to territorial authorities’ monopoly in this area.

The United Future member considers that the present weathertightness crisis graphically demonstrates that contestability amongst regulatory agencies often results in the inevitable demand for time and cost savings compromising quality and effectiveness. This results in the development of minimum prescriptive criteria for the carrying out of regulatory functions that then become maximum standards and deter the individual assessment of a specific project’s oversight requirements.

The majority of members consider it is timely to undertake a review to determine whether to continue to have contestability in the area of building certification, and to look at whether such contestability is actually in the public interest. The majority considers this is an issue that needs to be considered by the Government in its review of the Building Act.

We are concerned at the ease with which certifiers can hand over a ‘problem’ project to a territorial authority that is compelled by legislation to pick up. We consider such a transfer should be possible only by application to, and with the approval of the Building Industry Authority, which would be required to ensure that issues of payment for the extra work required by the territorial authority, and liability, were clearly established and, if necessary, determined by the Building Industry Authority.

We also consider that building certifiers should be responsible for the work they undertake from processing building consent through to code compliance certificates. We consider the whole area of handing on partially completed work to territorial authorities requires an in-depth review, as the Building Act does not address this situation.

Clear lines of responsibility and liability must be established for all the conditions of regulatory and service provision. We consider this is necessary when split responsibilities occur. The territorial authority should take action to ensure that the ‘playing field’ is as level

as possible, that concerns in this respect expressed by both territorial authorities and building certifiers are addressed, and that any misconceptions dispelled.

We consider it may be useful to undertake research to establish whether there is any clear relationship between projects where building certifiers have been employed and where major failures have occurred.

We consider it imperative that mechanisms be put in place to prevent applicants who have had their application declined by one organisation from taking it to another, until they find an organisation willing to approve it. This way of operating counts against maintaining quality standards.

It is a concern that building certifiers are vulnerable to pressure from unscrupulous developers, speculators or builders to pass substandard work at both the consent and inspection stages, particularly where repeat business is concerned. However, we consider the changes we recommend will address this problem.

The Building Industry Authority needs to remind all territorial authorities and private building certifiers that they are first and foremost regulators enforcing compliance with the Building Act and its regulations and only secondly service providers to individual applicants. We accept the need for a balance between enforcing compliance and providing an effective and responsive service to applicants. Nonetheless, we do not wish to see compliance compromised in order to accommodate the wishes of applicants.

Summary of recommendations

We recommend to the Government that:

36 The majority of members consider the Government must decide whether to retain or dispense with private building certifiers. If building certifiers were dispensed with, then no further action is needed. If they are retained then the majority of members ask that consideration be given to recommendations 37 to 40.

37 The Building Act be amended to provide that building certifiers can only hand over a 'problem project' to a territorial authority by application to, and with the approval of the Building Industry Authority.

38 The Building Act be amended so that building certifiers are made responsible for the work they undertake from processing a building consent application through to issuing the code compliance certificate.

39 Clear lines of responsibility and liability are established for all the identified conditions of regulatory and service provision within the building certification process.

40 Mechanisms be put in place to remove the possibility that applications for building code compliance, rejected by one organisation, can be accepted by another.

41 The primacy of building inspectors and building certifiers as regulators enforcing compliance with the Building Act 1991 and its regulations be reasserted.

Part 7 Decline in Level of Skills within Building Industry

Introduction

There is a general consensus among submitters that there has been a decline over the last decade in the level of skills in all sectors of the building industry. Contributing factors include:

- increased diversity and complexity of modern building projects
- specialisation and fragmentation of industry trades
- lack of a head contractor, qualified builder or other appropriate person to take control of a building site or project
- prevalence of using untrained labour and labour-only contracts
- decline in, and compartmentalisation of, training, education, and apprenticeship systems.

Cost cutting is also considered to be responsible for many of these trends, particularly for developers. Some submitters also comment on the ‘do-it-yourself’ home builder.

Submitters broadly agree that to reverse the decline requires mandatory registration or certification, better on-site supervision and management, and improved education and training, including a revival of the apprenticeship system.

Decline in skills

Most submitters agree there has been a decline in skills in the building sector as a whole, with a variety of differing factors contributing to this, including:

- increased diversity and complexity of modern building projects
- increased use of draughtspersons and computer-aided design
- a desire to keep costs down, leading to an adoption of lower standards
- specialisation and fragmentation of the industry
- a trend away from employing relevant experts on-site, such as architects, engineers and clerks of works
- an increase in use of labour-only contracts and untrained labour
- a decline in on-site training
- the near-demise of the apprenticeship system
- inadequate education and training covering broad theoretical, technical and practical aspects.

The Building Industry Authority submits that it shares the Hunn Report’s concerns about the decline in skills. The authority says that the highly skilled sector that operates around architects and designers of reputation and sound training, together with experienced and skilled builders, who, in turn, engage skilled subcontractors, does not experience problems with leaking or rotting houses.

There are marginal operators who surface at times of high economic activity, as have been experienced through most of the 1990s in Auckland. Price competition has led to low-quality developments using monolithic construction techniques that are vulnerable to leaking, especially if low-skill labour is involved. These untrained labourers enter the market unrestrained, driving the labour costs down.

The Whakatane District Council observes that competency-based unit standards replaced time-based apprenticeship training systems at the same time as the performance-based Building Act framework came in and new products and systems became available. It considers that the pace of industry change added complexity and pressure to an educational system that was not well established.

Specialisation within the building trades, coupled with increasing product range and a market geared at reducing labour costs combined to create a situation where employers had neither the time nor indepth knowledge of the new products to be able to provide quality training or supervision on building sites. The end result has been an ever-increasing gap between required knowledge and actual knowledge of core tradespeople.

The council says that responses from its meeting with 80 local building sector members in October 2002, as to why the level of trade skills is lower in 2002 than pre-1991, include:

- school leavers unwilling to apply themselves to a work and learning ethic
- unattractive remuneration
- low employer knowledge of new products, resulting in employers who are unable to teach apprentices skills other than basic carpentry
- minimal effort applied to ongoing professional development for cost reasons
- increased specialisation with increased product availability
- lowering of broad trade knowledge.

The Applied Technology Institute, UNITEC, is also concerned about the type and quality of remedial work being done on the current problem. The Building Trades Union is concerned at the negative comments about training in the building industry, which it considers are unfair as many thousands have served an apprenticeship and have passed trade exams. It says the problem is the number of people who have not trained that are working in the industry and the low number of apprentices being trained. The union considers that deteriorating standards of workmanship correspond with the similar increase in labour-only contracts.

Local Government New Zealand considers that a comprehensive assessment is required of the competencies required within all parts of the building industry, with a view to achieving an appropriate match between the necessary standards and various providers who are capable of training workers to meet those standards. However, we note some submitters believe the problem relates not so much to a decline in skills in the building sector, but rather, to an increase in the skills required to build modern houses.

Causes of decline

Building skills

There are no barriers to builders entering or exiting from the market under the Building Act, as it does not require them to have any qualifications. In practice this means people can enter the building industry with no, or few, skills and can call themselves builders.

Submitters comment that:

- Without registration anyone can be a builder – ‘all one needs is a ute, a dog and a loud radio’.
- Too many building projects are run by ‘circus’ entrepreneurs, project managers that have little, or no, technical ability (except to driving costs down), and ex-hammer hands. Anyone can call himself or herself a builder – that is also wrong.
- Any ‘clown’ can still go out and build a house. The trade needs to be registered. The Certified Builders’ Association is on the right track. Being a builder by trade is not a requirement of Master Builders.

Alexander and Company and UNITEC consider that the distinction between carpenters and builders has been lost in New Zealand. The firm says there are many people who are really carpenters by trade, but who operate as builders. We understand a ‘carpenter’ is trained in the techniques and methods of building structures, and should be a tradesperson working with tools and building materials. The term ‘builder’, on the other hand, should be used to describe a person with wider knowledge and responsibilities in the building process. In addition to the skills of a carpenter, a builder will understand:

- how to manage and coordinate subcontractors
- the importance of the various subcontractor functions and how they interrelate
- how to formulate progress and variation claims and understand the management of the building process
- have an understanding of building contracts.

In addition, Alexander and Company, along with Prendos Limited say that some of the biggest disasters have been caused by the ‘owner-builder’ who undertakes building work by assembling a range of contractors, usually sourced from Telecom’s *Yellow Pages*. In most states of Australia individuals are not allowed to be responsible for building works unless they satisfy minimum education and experience requirements in the building field. The firm considers it is essential that these requirements be implemented in New Zealand.

Cost considerations

A number of submitters focus on the increased use of labour-only contracts and untrained labour as a significant feature in the decline in building skills. Carter Holt Harvey Innovision considers that the use of labour-only contracts means that skilled and unskilled workers are competing for the same work – resulting in a loss of interest by young people in joining trades. The Whakatane District Council considers that the unattractive remuneration levels in the building sector have also contributed to declining skills.

Kapiti Coast District Council says:

The desire to keep costs to a minimum has seen a general acceptance of lower standards, cheaper labour and cheaper building materials ... there will need to be an acceptance by the paying public that it costs more to produce a quality product and that to produce a quality product you require competent tradespeople.

Funding issues are also seen as partly responsible for issues with education and training, and the decline of the apprenticeship system.

Specialisation and fragmentation

Fragmentation of the building industry is noted by a number of submitters as a factor that has contributed to the decline in skills. Fragmentation has occurred as people have specialised in certain areas, with the result that they are less knowledgeable in many areas of the building industry than builders of the past. In the past an owner contracted a reliable builder to construct the whole of the building and that builder would employ subcontractors. The principal contractor is now left with the situation where no one is in overall control to take responsibility for the project leading to problems at the interface of the various parts of the process.

The Consumers' Institute regards the traditional role of the builder as having fragmented, with building now characterised by a disparate collection of erectors, installers and suppliers, with casualisation of labour, and often with less than adequate control and co-ordination by a main contractor.

Local Government New Zealand says that building skills have become very compartmentalised, with the consequence being that the understanding of key aspects that have contributed to the leaky building problem have been lost, such as the use of flashings and the relationship between rigid panels and flexible framing.

Another submitter, a building certifier, observes that fragmentation has meant individual trades are less aware of the applications of their practices in relation to others, as they are not involved in as many stages of the building process as they may previously have been. Builders used to have technical knowledge of all aspects of building, including the subcontractors' work. The 'clerks of works' have all but disappeared, with their function taken over by project managers, whose main function is to have the building completed on time and within budget, and who have few, if any, building technical skills. Subcontractors have become licensed applicators or installers of specific products. Architects and engineers are only involved at the design stage and get little insight as to on-site application.

The New Zealand Institute of Clerks of Works recounts that during the 1980s developers and project managers became fashionable instead of clerks of works. The public did not recognise the benefits of using clerks of works as they saw them as an unnecessary expense or 'policemen'. The Government decided that industry should become responsible for its own training, and withdrew support by doing away with the apprenticeship system. The Building Act required the industry to set its own standards, and the Clerks of Works Act was rescinded.

Education and training

The six Auckland territorial authorities consider that training has become very compartmentalised, with a resultant preference of specialist knowledge and skills over generalist knowledge and skills. The authorities consider that training needs to regain a balance of building science, a range of practice expertise, and a mandatory requirement regarding basic overall knowledge.

Architectural Designers New Zealand says the single contributing factor has been the reduction of on-site training, be it site apprenticeships, polytechnic training, or university degree postgraduate training.

While UNITEC agrees with the Hunn Report recommendation that training and education must be given a very high priority, it does not consider that the report adequately recognises several aspects relating to this. The institute considers that the unit standards concept is fundamentally flawed and only suitable for process-driven tasks.

At the same time as training became unit standards based; the prescriptive standards were progressively replaced by performance codes. Tradespersons were now able to choose from an often confusing and sometimes contradictory array of options, by being able to choose between several different standards (acceptable solutions) or design their own solution, provided it met the performance criteria. New materials and technology have resulted in a vastly increased number of options and systems to be applied in an almost infinite variety of environmental and practical circumstances. This requires a vast practical experience as well as a proper appreciation of the chemical and physical attributes of the products.

These changes required a vast increase in off-site training, increasing the education content. However the education content was removed altogether.

UNITEC considers that the new unit standards confused competence with capability, and severely downgraded the skill component of many aspects of the trades. Problems include:

- confusing training with assessment
- unit standards very narrowly focused and often very badly written
- unrealistically short time frames for full qualifications
- Government funding per trainee has been gradually reduced, with increased administrative costs
- in many cases the industry training organisations' recognition is given to the employers' association, resulting in a desire to reduce costs to members rather than increase skill levels, and reduced off-site training.

UNITEC understands that this was contrary to both Skill New Zealand and New Zealand Qualifications Authority guidelines, but notes that no action was taken by either organisation.

Apprenticeship system

The Building and Construction Industry Training Organisation states that only 10 percent of employers within the construction sector are involved in training or apprenticeship schemes. The New Zealand Certified Builders Association (and, similarly, UNITEC) says that:

Until 1992, the New Zealand apprenticeship system was generally viewed internationally, as one of the best in the world, certainly in terms of quality, versatility and skill levels of the tradespeople produced. This system was so good in fact that the Government decided to abolish it. Complaints from various groups that tradespeople were too expensive were blamed on the perception that they had too many skills, and it would be better (cheaper) if people could be trained (and qualified) in modules and then employed on the basis of those restricted skills.

The Christchurch City Council notes that the apprenticeship system for carpenters provided an understanding of all the various subtrades and both theory and practical training. The fully trained tradesperson was able to understand and provide the co-ordination needed when various subtrade specialists for items such as roofing, cladding, and windows were involved. When the formal apprenticeship system was changed, skill levels available in the industry declined.

The Institute of Clerks of Works says that an industry training organisation and apprenticeship system were not established for some years and that this has created a significant period when the carpentry trade was not being taught and training was unregulated. It considers that it will take another 20 years for the gap to be filled properly.

The Franklin District Council considers that the demise of the apprenticeship schemes has left the responsibility for learning a trade to the individual who, more often than not, fails to finish the course of unit standards in the New Zealand Qualifications Authority system. Another submitter says apprenticeships have been downgraded to a level where 'pressure-cooked' apprentices have few skills.

Way forward – suggestions

The Whakatane District Council submits that responses from its meeting with 80 local building sector members in October 2002 as to what is required to improve knowledge and skills include:

- industry mechanisms that encourage compulsory ongoing professional development
- increased technical support to tradespeople from manufacturers pre and post new products and systems
- increased Government subsidies to employers to encourage training of apprentices
- apprentices to attend trade-training block courses before commencing site work.

The council also submits that responses overwhelmingly support trade registration to aid re-establishing credibility and public confidence in the construction industry. This could be co-ordinated at national level by an independent organisation similar to the Teacher Registration Board and cover all trades, or a number of trade-specific registration

organisations could be established. There was also overwhelming support for compulsory ongoing professional development by the 80 local building sector members who met with the Whakatane District Council.

Registration or certification

Many submitters state there is a need for builders to be trade-registered and qualified in the future and support a registration scheme being set up similar to those that operate for other trades such as electricians and plumbers. Some other tradespeople within the building industry are also seen as needing to be registered, such as those doing pre-purchase reports and those producing plans and specifications for building projects.

Submitters vary in their opinions on how much of the industry should be registered and what level of compulsion should be enforced with some preferring voluntary registration. Some submitters consider that registration alone is insufficient, and that further systems need to be implemented along with a registration process. Submitters also express concern about the need to preserve the position of the 'do-it-yourself' homebuilder.

A few submitters do not support compulsory registration. An Auckland building consultancy, CEW Management (New Zealand) Limited does not advocate the introduction of registration, as it considers that this will generate a whole new bureaucracy, as in New South Wales and Victoria. It believes the same or better results can be achieved by greater attention to detail at the design stage and supervision at the construction stage. The Christchurch City Council suggests the committee could review systems in Australia and select a model for use in New Zealand.

Alexander and Company states that the two organisations that carry out voluntary registration only cover a small percentage of the building market. In addition, another submitter considers that industry associations are useless at controlling their own members, as they are paid by their members and tend to minimise mistakes made. They do not act on behalf of homeowners, but on behalf of their own members.

The Consumers' Institute calls for compulsory registration to provide adequate protection to consumers, to ensure the weathertightness and structural integrity of New Zealand housing stock, as is the case with real estate agents and used car dealers.

The Law Society states that builders should be registered and that consideration should be given to whether this should extend to subtrades. The society considers 'registration' should extend to limiting the type of building a builder may undertake and should also involve considering the financial ability of the builder to meet warranty claims. The society proposes a public database to enable members of the public to obtain a better assessment of the professional and financial standing of the builder.

Submitters consider various permutations of registration or certification or licensing, and we note raise a variety of options. These focus on qualifications, ongoing professional development and competence, disciplinary measures, complaints mechanisms, registers, insurance, and provision of bonds, guarantees, and a fidelity fund.

Project management

A number of submitters consider that building sites should have a registered builder or project manager on-site at all times. The registered builder would then have overall control for all aspects of construction, and be responsible if products or systems are not applied correctly. The Building Industry Authority also considers that every building site should have a fully trained and registered builder on-site at all times – equal to the experienced site foreperson that every successful quality project has always had.

The Franklin District Council wants compulsory registration for all builders and people who are in charge of subtrades. It considers that a builder without the requisite qualifications and experience for registration or certification should be compelled to employ someone who does.

Some submitters also believe that the building industry needs to bring back technical managers with in-depth knowledge of building science and audit systems. The Institute of Clerks of Works suggests it may be time to reintroduce legislation requiring a clerk of works to be employed on every development type project. The institute explains that the owner usually employs the clerk of works through the architect or engineer, and the primary duty is to ensure that the structure is constructed in accordance with the standards and scope of work laid down in the plans and specifications. The clerk of works cannot vary the contract and maintains accurate records during the construction process that are seen to be independent. The clerk of works offers advice regarding likely construction problems and also reports substandard workmanship in progress that needs to be ceased and rectified.

Education and training

Many submitters also comment on the need for education and training as a suggested solution to reverse the decline in skills in the building industry. Financial assistance, research into types of education and training required, and awareness of changes in products and methods in the building industry are key factors considered in need of addressing.

The New Zealand Institute of Architects proposes that a ‘pan-industry’ organisation co-ordinate training. The New Zealand Construction Industry Council and the Master Builders’ Federation perceive that established trade-training organisations need to undertake an audit of current industry needs and training outcomes.

Submitters discuss a range of education and training to provide broad education and training, including education and training on-site, which covers all theoretical, technical, and practical aspects of building. Suggestions are also made by submitters about the need for other trade training options and qualifications, such as initial on-site supervision. The six Auckland territorial authorities say cross-trade training is needed to increase skills in the building industry.

Several submitters believe that Government funding is required for education, training, and continuing professional development of the various sectors of the industry, particularly for industry training organisations. The Building Industry Authority considers that builders should train new builders, with assistance from the Government or the authority or both.

The Building and Construction Industry Training Organisation wants further development of trade-training qualifications. Another submitter, a developer, considers that an increase in the number of available formal courses and qualifications is necessary in order to supply industry in the future. One submitter says that formalised compulsory trade training, including off-site training, is required to upskill levels in the industry. Skill requires both training and education, and there is no education without off-site training, as is the case with the new system. The submitter comments that training is the 'how' and education is the 'why'.

One submitter says degree-based courses should be funded in building technology and materials science, building control, and building surveying. Another submitter would like the authority, with the Building and Construction Industry Training Organisation, to implement annual exams, and for unit standards to include technical knowledge of all parts of the building industry, along the lines of the former Certificate of Building. The submitter considers that technical knowledge will eliminate technical failures, and this certificate would become the prerequisite for registration as a builder and building inspector.

The New Zealand Certified Builders' Association says the National Certificate in Carpentry should become a three-year standardised qualification, with annual year-end assessments and a final end of qualification benchmark to ensure the necessary standard is achieved. The New Zealand Building Trades Union considers that a card should be issued to tradespeople who have served an apprenticeship or have a national or trade certificate.

The Construction Industry Council wants a mandatory six-month on-site practical experience module to be incorporated into any existing and new trade-training qualification requirements.

One submitter, an architect, recommends that more training be given to architectural students in carpentry and joinery technologies, specification writing, working drawings, and project administration. The submitter believes that architectural graduates should have more practical experience in architects' offices before becoming eligible for their registration examination. Another submitter wants the training of architects to be removed from the regime of the industry training organisations.

BRANZ says that the use of its information – that is; appraisals, bulletins and guidelines – and attendance at its seminars will remain inadequate unless there are requirements brought in for their mandatory attendance and use. Prendos Limited suggests that ongoing education to reduce weathertightness failures by tradespeople should be introduced, and that failures should be linked to individual records on a demerit point-style system.

Awareness of products and methods changes

A submitter asserts that the increasing variety of products and methods used in building a house in New Zealand have meant there has been an increasing requirement for greater knowledge at all stages of the design, building, and approval of new homes. The organisations involved in providing training must ensure the course content and actual training is up-to-date. BRANZ says a better understanding of products and systems is needed. The New Zealand Institute of Forestry also believes that many people in the building sectors appear to be unaware of the properties of many of the materials they specify, for example, timber properties and preservation. The institute considers this needs

to be addressed in their respective institutes of training and also in the information available on the materials.

The Construction Industry Council, AHI Roofing Limited, and the Consumers' Institute want manufacturers to also take an active role in training.

Apprenticeship system

Many submitters also address the apprenticeship system. In general, they see the need to reintroduce the apprenticeship scheme, create a central authority for handling apprenticeships, and review apprenticeship training.

The New Zealand Institute of Building and Mainzeal call for a centralised apprenticeship authority to employ and place apprentices, and to maximise the annual intake into the industry. One submitter considers the Building Industry Authority needs to increase its educative role in the building sector, and assume control of trade training and work with the New Zealand Qualifications Authority to establish a benchmark for apprenticeship training. The North Shore City Council suggests apprenticeships could be re-introduced through tertiary institutions.

One submitter considers that apprentice training should be inspected to see that it is sufficient to cope with the problems that have arisen with the weathertightness of buildings. Another submitter says the effectiveness of the existing apprentice training system should be critically reviewed for content. New apprentices could be bonded to a registered builder, who would accept personal responsibility for their training, and who would receive a Government subsidy for the duration of the apprenticeship as recompense.

An individual submitter sees the apprenticeship system as preserving inter-generational expertise. An industry organisation proposes that all practical components of an apprenticeship should be undertaken on an actual building site, under the guidance and supervision of the provider, by a builder who is trade-qualified, and who can provide the appropriate training. The Institute of Building suggests site experience of six months should be a prerequisite to graduation.

Several submitters wish to return to a time-served component for apprenticeships, which could incorporate block day-release periods to attend trade-training institutes. Mainzeal also suggests reinstituting the Maori trade-training scheme.

Comment

There is a general consensus among submitters that skills in the building industry have declined over the last decade. The impact of this decline has been significant as the new freedoms permitted by the Building Act's performance-based regime require greater skills in order to be able to construct diverse and complex building construction systems.

We consider the dismantling of New Zealand's apprenticeship scheme that was in place until 1992 has further exacerbated the situation. After a gap of several years the scheme was replaced with a system that many of the submitters regard as inferior to the pre-1992 apprenticeship scheme. The current system is considered by some submitters to be too narrowly focused, out of tune with present day demands on building operatives, and lacking in educational or on-site experience. We note the Building and Construction

Industry Training Organisation states that only 10 percent of employers within the construction sector are involved in trainee or apprenticeship schemes.

It is a concern that the building industry in New Zealand is currently one of the least qualified industry sectors in the country. Other industry sectors have upskilled while the building industry has ‘dumbed’ down. We find it unacceptable that any building can be designed, built, supervised, and inspected by people with no qualifications or training – and in theory at least – with no experience. The specialisation and fragmentation of industry trades means very few people working on a building site have any understanding of how the whole building goes together. Project managers, with only generic organisational and financial skills, and without the back up of a qualified builder, now run many large building sites. There is also a tendency to use untrained labour and labour-only contracts, particularly on larger jobs such as multi-unit housing.

Cost cutting is regarded by submitters as being responsible for many of these trends, particularly in the developer-driven schemes. The nation appears to have been trying to get its buildings built ‘on the cheap’ for many years, and we note that pressures in this direction have been severe over the last decade.

If we are to reverse the trend of declining skills in the building industry, we consider it is imperative that all the people who are employed in the industry should be competent to carry out the tasks they undertake. To achieve this, all key players in the industry need to be trained and educated in the tasks they are required to perform, and only those who are qualified should be allowed to perform those tasks. The ultimate aim has to be that any person supervising the work of a group of workers must be qualified, registered or licensed, and can be held accountable and liable for their actions and those of their workers.

We accept that this requirement will see a shift in the thinking about labour in the building industry, from the current casual mode to a more professional mode. While upskilling the building industry workforce is a long-term programme that will require transitional arrangements, we consider it will eventually be of significant economic and social benefit to the country, the public at large, and the building industry. We intend that even those who are not in charge of others should be competent in carrying out tasks so that they can accept responsibility and accountability for their own work.

Submitters broadly agree that there needs to be mandatory registration or certification. The type of registration or certification, and the extent thereof, is a complex and intricate subject, which requires investigation.

At the very least, there needs to be a person identified who is qualified, competent, and registered or certified, who will have direct responsibility at each stage of the building process, designing, building, and inspection process. Project managers may be competent in financial and organisational planning, but there should be a builder on the site who has the knowledge and vision to ensure that all the parts are brought together properly. If future problems are to be minimised, it is the builder whom we consider should be in charge of the building site.

We note the Building Construction Industry Training Organisation has initiated a review of training in the building industry. While this has merit, we are concerned that it may not result in the level of change that submitters want. Some submitters consider that training is controlled by only one segment of the industry. These submitters therefore consider that there is a need for a controlling board to be put in place, which would be more representative of the whole industry. Local Government New Zealand says that a comprehensive assessment is required of the competencies required within all parts of the industry, with a view to achieving an appropriate match between the necessary training, education and qualification standards, and various providers who are capable of training workers to meet those standards.

Apprenticeship training needs to involve significant quotients of skills training, education, and on-site, hands-on experience. The industry today requires people to make informed and intelligent choices in every field. Workers must therefore know the ‘why’, and not just the ‘how’, so that they can deal successfully with new situations, materials, products, and techniques, and to also deal sensibly and knowledgeably with interface situations with other trades. We note the views of those submitters that suggest the current unit-based education system is too narrowly focused and only deals with some of the ‘hows’.

Attracting suitable people into the industry and into training will remain a problem as long as untrained people can enter the market unrestrained. When considering a career in the building industry, we understand that some young people see little point in spending several years of training to enter a low paid industry, and having to compete, cost wise, with unskilled and untrained people. We need to be able to offer people a career path and a reasonable financial return for the effort, and skills and education they obtain.

Many submitters feel that standards of quality in the construction of buildings have fallen in the last decade, and that it may be time for the Government to reassess the quality standards laid out in the building regulations to consider whether they have fallen below the minimum standard acceptable to our society. Unless the standards laid down in the regulations represent good trade practice, which used to be the norm, then we are unlikely to achieve this norm in the future, as almost all buildings are built to the building regulation minimas.

Summary of recommendations

We recommend to the Government that:

42 People employed in the building industry may need to be either reskilled or upskilled to ensure they are competent to carry out the tasks they undertake.

43 The majority considers that a building industry registration and competency regime should be developed.

44 Consideration is given to requiring critical building work to be supervised by building practitioners, such as builders, architects, engineers, designers, or draughtspersons, who have demonstrated competence. We expect owner-builders to also be covered by this requirement.

45 The apprenticeship scheme and other training be expanded to align with current and perceived future needs of the building industry.

46 Major development projects should be supervised by a registered clerk of works, or similar. Government policy in this area needs to differentiate between homeowners and major construction projects.

Part 8 Health Issues

Introduction

Many submitters outlined to us the health problems that may arise from leaky buildings, including those affecting occupants due to damp housing generally, and those related to mould from rotting untreated timber and other materials. The health issues cited include asthma and other respiratory diseases, eye, nose and throat irritations, skin irritations, headaches, tiredness, and arthritis. Submitters also express concerns about the harm from mould to those involved in repair work. In addition, problems with stress and mental effects are raised by many of the submitters. A few submitters also refer to safety issues arising from structural problems.

In terms of comments on how to address these health issues a few submitters consider that current legislation is adequate to address these problems while other submitters call for further legislative measures. A number of submitters ask for research and information on the effects, risks, and remedies.

Health problems

Submitters generally consider that health problems arise for those living in leaky and damp buildings. The health problems result from rotting untreated timber and other cellulose materials, particularly those used on the outer layers of Gib board and fibre cement board. One submitter considers that moisture in buildings, including mould, is one of the biggest health issues related to the nation's housing. The Consumers' Institute says that New Zealand has an unenviable record of asthma and respiratory disease, which is undoubtedly exacerbated by the quality of housing. We note that the medical effects of moulds are particularly serious to persons with existing respiratory conditions, the elderly, the young, and those with immuno-compromised conditions. We further note that indoor air quality is a serious health issue in New Zealand with clear links to living in leaky and damp houses.

We note the following experiences outlined to us by some homeowners:

- Experiencing health problems since moving in, with asthma hard to control.
- Daughter's bedroom has rotten walls and complains constantly of insomnia, sore eyes, and sore throat. Has time off school, as she is so tired. Doctors unable to find anything wrong with her. When she stays at friends' houses she wakes up feeling alert and not at all tired. Mother has had unexplained nausea symptoms and sore eyes for past year.
- Since moving into new home, owner and her two children have noticed hay fever symptoms, headaches, and tiredness, which she puts down to the walls being rotten and containing fungi.

In addition, another submitter points to the failure of structures as a health issue, and raises leaking water exiting through an electric light socket as a health hazard. The Building Industry Authority informs us that it has already carried out recommendation 1 of the Hunn Report by issuing a public warning concerning the risk of collapse of cantilevered balconies and decks supported by untreated timber framing.

Mould

Many submitters refer to mould, or toxic mould, fungi, spores, or mildew as a health issue. Some of these submitters specifically raise stachybotrys, which is a particularly toxic mould associated with damp homes.

A mould remediator, Enviro Clean and Restoration Limited, states that moulds are increasingly associated with new construction that is built airtight to conserve energy, and which can result in reduced ventilation, excessive moisture, and accumulation of moisture behind insulation. The firm points out that the cause of mould damage in leaky homes is not confined to product failure or incorrect installation but, that it can be caused by water originating internally from faulty hot water systems or overflowing basins. High humidity and poor housekeeping practices can also increase the risk of mould. If wall linings, ceiling cavities, and subfloor areas remain moist, mould will develop over time, with organic wet building materials being a great food source for fungi.

Prendos Limited told us that it had identified 65 dwellings with stachybotrys in the Auckland area and that the problem could be extensive. Local Government New Zealand considers that the proposed ‘assistance package’ announced by the Government should give priority to those homeowners who have homes that not only leak, but which also have evident stachybotrys. We agree and consider the Ministry of Health, in conjunction with Local Government New Zealand and the Building Industry Authority, needs to undertake a survey to determine the extent of the stachybotrys problem.

Stress and mental effects

Submissions we received from homeowners identify stress and other adverse effects on mental well-being, with flow-on effects to physical health, as being significant health problems. Submitters tell us these are caused by living in leaky homes with attendant health and other problems and as a result of trying to obtain remedies and ‘financial’ stress. Two Auckland territorial authorities, an industry organisation, Prendos, and an individual also recognise these effects. The six Auckland territorial authorities express concern at the significant stress this issue is putting on families and other homeowners, particularly in situations that have continued for some time. Experiences recounted by homeowners include:

- Admitted to hospital with stress-related heart attack within week of report identifying numerous requirements of building code not met, possibly due to report. Medical treatment required as result of stress due to home problems. Postponed plans to start a family until house fixed and recovered financially.
- Health suffering due to chest irritation that improves if he leaves home for a day or two. Worry, sleepless nights, depression and frustration over issue in whole family. Wife admitted to hospital suffering from heart attack caused purely by stress according to cardiologist.
- Emotional and financial stress is indescribable.
- Has buckets placed throughout house to collect leaks. Worried mould may be toxic. Property is smelly due to rotten wood and very depressing to live in as a result.

- Battling builder and council for over two years over a serious mould problem has put stress and strain on lives, and marriage almost to breaking point.

Remedial work

A number of submitters also express concerns about the health effects of investigatory and remedial work. Alexander and Company is concerned that the health hazards will be increased if the parties making the diagnosis and determining the repair methods do not have the required knowledge and experience. The Kapiti Coast District Council has concerns over the protection of its staff who may be in contact with potentially hazardous fungal spores as a result of investigating wet, chemical-free timber. Another submitter states that her family will have to move out for four months while repairs are done to the home, with stachybotrys in high numbers, due to dust and spores.

Alexander and Company wants BRANZ and the Institute of Building Surveyors to be recognised as the principal authorities in this area, with training directed through them, so that correct information is distributed, and safe remedial work procedures adopted. Enviro Clean and Restoration considers that in the absence of national regulation in New Zealand at present, industry-wide accepted standards and guidelines are needed in line with internationally recommended procedures. The firm states that many in the legal community are beginning to view mould as the 'next asbestos'. It calls for registration and certification of mould remediators. Another submitter also calls for registration for the same reasons. Without this, the submitter considers that there will be a tendency for unskilled persons to 'jump on the bandwagon'. They are likely to expose themselves, their workers, their clients, and the public to health hazards because they do not use appropriate personal protection, and do not employ approved screening and ventilation equipment.

Solutions

Submitters also address a number of matters regarding solutions to the health problems caused by leaky buildings. These focus on the adequacy of legislative provisions generally, treatment of timber, and research and information.

Legislation

Local Government New Zealand and the six Auckland territorial authorities consider that current legislative provisions, as they relate to substandard housing, are probably adequate to address health issues. The Franklin District Council cites the existing provisions in the Building Act that apply to unsanitary buildings as adequate in enforcing compliance to prevent the residential occupation of leaky buildings. A submitter states that all building codes are based on health and safety. Prendos also states that, while one of the Building Act's main purposes is to safeguard people from illness or injury – as stated by the building code clause E2 'External Moisture', it fails to provide performance criteria. Some submitters also refer to the health and safety legislation as being relevant.

Timber treatment

In response to this term of reference, a few submitters suggest treating timber to prevent future problems of rotting and mould when buildings leak. A submitter asks that the health issues related to chemically treating timber, its effects on sawmill workers and on the environment need to be considered when deciding on mandatory chemical treatment.

Another submitter considers that any health issues with preservatives being used to treat timber are of a lesser concern than leaky buildings.

Research

A number of submitters call for research and the provision of information on the health effects and risks of, and remedies for, leaky buildings. Areas that need to be addressed, both in terms of the remediation of current problems and the avoidance of problems in the future, focus on rotting timber and mould, as well as indoor air quality, and thermal efficiency effects. The Whakatane District Council wants guidelines outlining precautions that need to be taken when opening up wall cavities and removing decayed timber framing. The Consumers' Institute observes that the elimination of the underlying dampness problem is the only permanent solution.

Comment

The principal health issues connected with leaky buildings are:

- mould growth both inside wall cavities and on the interior surfaces of homes
- the rotting of timber frames and some cellulose based cladding materials
- mental stress and illness allied with deterioration in physical health of affected house occupants.

We are concerned that all these negative aspects of this situation are likely to become worse over time, and that many of the affected people cannot financially afford remediation and they feel trapped. The building regulations do not set out to protect the property of the owner nor the investment of the owner. However, they do aim to protect the health and safety of the occupants. Buildings that rot and grow mould clearly contravene the intention of the building regulations in these respects. Advice from the Ministry of Health suggests that they also contravene the Housing Improvement Regulations 1947 (under the Health Act 1956), which states that every house will be free of dampness.

To some extent this situation is not new. Mould and mildew are a major problem in many New Zealand homes, with suggested figures showing that 45 percent of New Zealand homes display mould growth to some extent. Unflued gas heaters, which are in widespread use in New Zealand, generate large amounts of water vapour and a cocktail of exhaust gases. The health effects of their use are coming under increased scrutiny. Poorly ventilated bathroom, laundry, and kitchen spaces also contribute to high humidity levels in many homes. Warm, high humidity conditions are ideal for the growth of moulds and dust mites. Spores and dust mite faeces are regarded as principle triggers for allergenic illnesses such as asthma. We are advised that many New Zealand homes have inadequate heating, poor ventilation control, and low thermal insulation standards, which mean that temperatures often sink below World Health Organisation limits (prolonged exposure to temperatures of 16 degrees C and below) for the onset of hypothermia in the elderly and in children.

There are also adverse health effects due to poor indoor air quality. This, too, is a pre-existing condition, which we are advised has become worse in recent times because of the extensive use of materials in buildings which offgas chemicals, such as formaldehyde and various volatile organic compounds, to interior spaces during application and for prolonged 'drying out' periods thereafter, the air pollution caused by cigarettes, unflued gas

heaters and unvented cooking devices, and the multitude of chemicals used in cleaning, maintenance and re-decorating. This is an international phenomenon that is made worse in New Zealand by the inadequate ventilation of many homes.

The use of non-breathing envelope designs adds to these unsatisfactory conditions by not permitting the outward migration of moisture vapour and other chemical gases. Such designs, in combination with high humidity generation and less than adequate ventilation – particularly during winter – may result in saturation of the thermal insulation and high levels of humidity in the timber framing even when there is no water leakage from the outside. This can occur during the initial drying out period and in use. The presence of water in the cavity behind the external skin adds to this problem and can result in early and catastrophic failures in some of the materials currently used in building construction, which tend to deteriorate rapidly in the constant presence of water.

While the legislation is theoretically in place to require the building of healthy homes in New Zealand, the reality is that New Zealand homes seem to be amongst the least healthy in the developed world. The building regulations in their existing form primarily deal with health from a nineteenth century perspective. Plumbing, sewerage, rainwater, daylight, and ventilation (to some extent) are all adequately covered. However, conditions, which give rise to ‘environmental’ diseases and the onset of hypothermia, are not really addressed.

The health costs to the nation and the sheer misery caused by having to live in unhealthy and uncomfortable homes are hard to calculate, because in many cases we are talking about so called low-grade environmental illnesses. Other effects, such as allergenic reactions, asthma and arthritis, are higher profile and perhaps easier to cost.

Way forward – practical solutions

The criticism in regard to legislation, again, is not so much a questioning of intentions, but the lack of helpful specificity on these matters. We consider there is a real danger that, in the current deregulated building environment in New Zealand, unskilled persons will undertake investigatory and remedial work. This is likely to have the effect of making the current situation worse. Such a situation is likely to result in increased health hazard to investigators, remediators, building occupants, and the public at large. The work carried out may be unnecessary, inappropriate or ineffective. We therefore consider there is a strong case for regulating such work. We question whether homeowners should be cleaning up mould themselves, as the guidelines imply, given the toxicity of the stachybotrys mould.

The vetting and licensing, or certification of organisations or individuals qualified to carry out either investigatory or remedial work should be handled by the Building Industry Authority, with advice from BRANZ and the Institute of Building Surveyors. Training could be directed through BRANZ and the Institute of Building Surveyors. We consider that agreed industry-wide standards and guidelines are needed for all facets of this work. These should be in line with internationally recommended procedures, with specific overseas standards being adopted as an interim measure until regulations are developed.

While research into non-destructive investigation and remediation techniques is worthwhile, it is likely to be a medium to long-term endeavour, unless techniques developed overseas can be adapted for use in New Zealand. We consider research needs to be urgently undertaken to develop effective, durable, and realistic remedial techniques for

mould and rot treatment, and for leaky cladding systems. The treatment of timber is discussed in Part 2 of this report.

The wider health issues connected to building, and specifically to the current building stock in New Zealand, is in itself a huge and complex issue, and was not the central focus of submitters. We therefore suggest that it be raised as an issue to be addressed by the Government. We would like to see the matter considered as part of the Government's current review of the Building Act.

An immediate step to educate builders and owners of the dangers involved in the remediation of mould-affected buildings would be for the Occupational Safety and Health Service of the Department of Labour to distribute their Workplace Health Bulletin entitled *Risks to Health from Mould and Fungi* to all known builders and affected building owners.

Summary of recommendations

We recommend to the Government that:

47 A survey be undertaken by the Ministry of Health, in conjunction with Local Government New Zealand and the Building Industry Authority, to determine the extent of the stachybotrys problem.

48 As an immediate step, a Government 'assistance package' be made available to those homeowners already identified as suffering from associated health problems because of a rotting building.

49 Research be undertaken to develop effective, durable, and realistic remedial techniques for mould and rot.

50 Before approving new products, BRANZ to investigate the effectiveness of the product in terms of resisting the development of mould and rot in buildings, and associated health effects.

51 The Building Industry Authority, with advice from the Ministry of Health, BRANZ and the Institute of Building Surveyors, develop industry-wide standards and guidelines for the vetting and licensing of investigators that undertake remedial work.

52 The Ministry of Health undertakes the public education and monitoring of the associated health problems that can be caused by defective buildings.

53 The Occupational Health and Safety Service of the Department of Labour immediately distribute the Workplace Health Bulletin entitled *Risks to Health from Mould and Fungi* to all known builders and affected building owners.

54 Research is undertaken as part of the Government's review of the Building Act 1991 of the wider health issues connected to building in New Zealand.

Part 9 Resolution of Existing Problems

Introduction

Many submitters express views on the resolution of the current problems with leaky buildings. Discussion of specific liability or responsibility generally takes into account that liability is likely to be difficult to pinpoint and diffuse, given the different roles involved, including those of architects and designers, territorial authorities, builders, developers, product manufacturers, and suppliers, among others.

Submitters ascribe overall responsibility to the Government (for the legislation and its implementation, or in the absence of other parties) or to the Building Industry Authority in particular, as well as to the building sector in general. We note the comments of the Law Society:

As a result of systemic failure within the building industry, homeowners as well as industry participants are victims to varying degrees of the rotting building syndrome. Homeowners, however, are most clearly the victims. They are entitled to expect that, at the end of the house building process, they would occupy a house built in accordance with good building practice, using good material, that would be fit for habitable occupation and that would not rot.

For homeowners, sheeting home responsibility and liability will be expensive, time consuming and stressful ... Taking matters to court will not be an option for most homeowners, except in those cases where class actions can be adopted in each case as unit developments. In many cases there will not be a contractual nexus between the homeowner and those who were involved in building the home. In most cases, the system suppliers, territorial authorities, design professionals and builders will have financial resources, expertise, information and experience in identifying and resolving problems in a way most advantageous to themselves far greater than the affected homeowner.

Weathertight homes resolution service

We note that the Government responded to the Hunn Report by passing legislation¹⁴ to establish a Weathertight Homes Resolution Service within the Department of Internal Affairs. The purpose of this service is to provide owners of dwellinghouses that are leaky buildings with access to speedy, flexible, and cost-effective procedures for assessment and resolution of claims relating to those buildings. We understand that the final location of the new service will be decided in the context of the Government's review of the Building Act, but that it will be part of the department until at least 30 June 2003.

We note the advice provided by the Department of Internal Affairs on the progress made in establishing the resolution service.¹⁵ As at 28 February 2003 the resolution service had received 526 applications that cover 1062 homes. Applications currently with assessors

¹⁴ The Weathertight Homes Resolution Services Act 2002 was passed in November 2002.

¹⁵ Department of Internal Affairs, Advice provided to the Government Administration Committee on the *Weathertight Homes Resolution Service*, dated 28 February 2003 INQ/LEAKY/DIA/8.

amount to 123. Final reports received from assessors number nine, and final reports referred to the Homeowners and Evaluation Panel also amount to nine.

The Auckland City Council states that it is unable to predict the level of likely claims. It supports the Government's mediation service, but is concerned that the term 'leaky building' is not clearly defined, and regards the Hunn Report's definition as more robust.

Another submitter considers that a mediation service does not take into account people who have no one they can take to mediation. Mediation assumes that 'accountable' parties still legally exist, have assets, and can be found. The submitter also wants the committee to address the different legal situations for houses built pre and post 1991, as do some others, given that an older home also leaks and rots from similar causes. Other submitters say they phoned the 0800 number for leaks and were told they could not be helped, as they were not the original owner.

Some submitters express concern at mediation without binding arbitration or adjudication, or support adjudication. CEW Management does not agree with the Employment Relations Act 2000 model being used, although it supports most aspects of the Government's proposed service. However, the firm considers that adjudication as well as mediation should be confidential, otherwise homeowners may not proceed with adjudication, and may instead prefer arbitration. It also wants determination to be final for the homeowner, but not for the other parties.

Legal action

Several submitters do not want homeowners' right of access to the courts to be interfered with. One submitter considers that the Government needs to keep out of people's private lives and let them get on with what they need to do, which is to sue. A few submitters consider that those responsible should be prosecuted, as well as being civilly liable.

Another submitter states that the legal system is too costly, as is the process of obtaining independent reports. The submitter wants courts to award full costs to the innocent party, with the ability to be represented by individuals other than lawyers, and for the Disputes Tribunal to cater for amounts of up to \$50,000. This submitter expresses concern that homeowners who do get some compensation from a builder are usually required to sign a confidentiality agreement, so poor workmanship does not become well known.

One submitter states that those responsible should be liable, and suggests a waiver of all court application fees, and, for genuine claims, a waiver of court costs for those bringing claims within six months. Two individual submitters consider that the limitation period of 10 years to bring claims under section 92(1) of the Building Act needs to be removed as damage will not necessarily manifest itself within this period, given that parts of homes are required to have a minimum life of 50 years.

Alternatives

The Whakatane District Council says it:

Harbours serious misgivings over the Government initiative in establishing a mediation and adjudication process to resolve individual claims. Instead it is the council's preference that the Government reconsider the Local Government New

Zealand recommendation to establish a fund that will enable repairs to be carried out on a 'no blame' approach ... Due to the apparent scale and the 'systemic nature' of the issue, as established by the Overview Group, identification and apportionment of blame via litigation is not considered an effective use of resources.

The Law Society considers that a commission needs to be established to determine the remedial work to be undertaken in certain cases, and to allocate the cost of undertaking that remedial work among the people who bear some responsibility. These may include developers, system suppliers, territorial authorities, design professionals, builders, and other contractors who built the homes. It cites the New South Wales dispute resolution process as a model. The society considers that, regardless of confidentiality clauses, all settlements reached must be registered with the commission, and be publicly available for searching.

One submitter, a homeowner, also proposes that an independent review commission should be set up by the Government, and be made up of independent inspectors to hear all complaints, inspect affected properties, and determine the extent of damage. The submitter wants all houses built under the current standard put on to a register, and inspected immediately, and then monitored for the next 15 to 20 years. The costs associated with the full replacement of damage should be paid for by all associated parties. A financial fund could be set up by the parties to fund these repairs.

Funding

Other submitters, mainly homeowners, also wish to see some kind of fund set up to fund repairs and provide compensation, or to provide interest-free loans. Some submitters do not consider that the Government should fund repairs or compensation (beyond, at most, providing a resolution service). One submitter fails to see how the Government is going to 'make good' all the malicious wrongdoing of private construction companies, stating that they did it to make money. The Government should get the monies for repair from them, not the taxpayer. Other submitters share these sentiments. One homeowner feels that, to some degree the current stance of the Government minimises the care builders need to take.

However, other submitters believe that the Government must get involved if those responsible, such as builders and developers, do not pay, even to the extent of covering the costs of repairs. A submitter proposes that a fund should be established that is based on levies on the building sector, as was done, for example, with solicitors regarding the Renshaw Edwards case. However, an industry organisation opposes a fidelity fund being set up, saying it is unreasonable to expect that responsible owners who engage competent and qualified contractors and consultants should be made accountable for those who cut corners and then run.

We note that submitters see territorial authorities as responsible, and that they are often being added to legal action taken by individuals. Local Government New Zealand does not consider that local government should have to be the funder of last resort, and it wants the Government to provide some sort of a 'backstop' financial assistance scheme, such as the Canadian 'zero interest loan model'. The Dunedin City Council does not consider that its ratepayers should have to contribute to the cost of mediation, or to any other costs that are sought from local government, unless there is evidence that there are significant problems in all regions. In addition, it does not believe there should be an additional levy on building

consents for funding this, considering that it would be appropriate to utilise the existing Building Industry Authority levy surplus.

Part 10 Consumer Protection Measures

Introduction

Several submitters, including the six Auckland territorial authorities, perceive the need for greater consumer protection measures, particularly as a home is likely to be a person's greatest financial investment and that such protection is given to purchasers of motor vehicles. The Auckland City Council says that, for most New Zealanders, the purchase of a family home represents the most significant financial investment a family makes, and that generates strong emotional attachment.

In terms of solutions for the future, and as a way of addressing some current issues with liability and resolution of existing problems, a number of submitters propose a number of broad consumer protection measures, including legislative review to prevent developers and others in the building sector from avoiding liability, along with specific measures, such as bonds, retention sums, guarantees, and insurance. A standard home building contract incorporating such features is also proposed.

The Auckland City Council suggests increasing awareness amongst purchasers of the wisdom of requesting a pre-purchase inspection, which could be encouraged by real estate agents, while acknowledging that this is not possible for purchasing 'off the plans'.

A forestry expert states that purchasers of rotting homes are not responsible for their situation, and are entitled to assume that the law, basic standards, and consumer rights' guarantees protect them. Another submitter wants legislation created that gives the homeowner more effective legal comeback against council inspections and associated companies regarding inferior workmanship. The six Auckland territorial authorities state that consumers need a much better, workable model, consisting of a regulatory arm and new consumer rules and regulations.

The Consumers' Institute calls for greater legal protection of homeowners as one of three additional matters it wanted this inquiry to address. It says that for understandable legal reasons the purchase of permanent dwellings was excluded from the Consumer Guarantees Act 1993. While the Building Act offers some protection, exercise of rights under this is legally complicated and expensive.

The institute suggests the re-introduction of a legislative guarantee scheme similar to that in operation in the 1970s, with a fund at its core. A second option would be a voluntary scheme, but the institute acknowledges that, given the fragmentation of the industry, it would be difficult to implement this on a universal basis. It does not consider the Master Builders' scheme an appropriate model, as this only applies to members, and the cover provided is inadequate. The institute also wants a third option of amendments to the Building Act to be fully investigated to provide clearer lines of redress.

Prendos Limited calls for a consumer office to help drive improvement in the quality of construction, assist with research, and provide emergency funding where needed. It considers that a direct consumer voice has been missing from the building industry and that this needs to be corrected by having a consumer's advocate on key industry boards.

Reassessment of limited liability laws

A number of submitters express concern about parties avoiding liability by dissolving companies, going into liquidation or bankruptcy, selling, or relocating. This is also an experience recounted by homeowners. One homeowner says building companies should not be able to escape from future liabilities by liquidating and then continuing under another umbrella and calls for the Government to take an active role in this issue. Building and dispute resolution consultants, Alexander and Company, want an examination of what measures can be taken to avoid developers and builders from liquidating companies after every project, thereby avoiding any liability for defects that they would ordinarily have legal liability for, including mandatory bonding.

Submitters ask that the companies' legislation be reviewed in this specific regard. Prendos also wants the limited liability laws re-assessed. One submitter recommends that companies should not be wound up while they are still liable for claims to be made against them within the 10-year limitation period. If they are wound up, directors should provide a fidelity bond guaranteeing the performance of the whole system, or alternatively, pay a refundable deposit into a trust fund that could be used to make repairs and compensation.

Submitters also comment on the 10-year limitation period in section 91(2) of the Building Act for claims from the date of issue of the code compliance certificate. This matter is discussed elsewhere in this report, and is also one of the matters submitters want addressed as a consumer protection measure under an extended review of the Building Act.

Standard home building contract

The Law Society supports the Hunn Report's recommendation that all contracts involved in the building process should better define the roles, functions, responsibilities, and obligations of all parties. The society says that contractual relationships and construction methods and products are now more complicated. A myriad of contracts are being used in the building industry, many of which are wholly unsuitable and inadequate or both. The society submits that contractual relationships should be more clearly defined.

Lawyers' first involvement is often the agreement for sale and purchase for a dwelling completed or yet to be completed. Very often the builder and key contractors are not named. Often the warranty is very general. Many contracts provide for notification of defects within a limited time and maintenance period.

In addition, the absence of a head contractor makes it easy for each to blame the other when things go wrong. Key concerns are:

- The ultimate occupier may have, as his or her only direct contractual relationship, a claim against a single purpose company that will be extinguished within a relatively short period of time.
- There is no contractual relationship between the purchaser and a builder that enables the purchasers to seek redress against the builder for poor workmanship. The same is true in relation to responsibility for design and proprietary building systems.
- There is an increasing use of the builder as merely one of the subtrades. It is no longer always possible to hold the builder liable for poor workmanship by the subcontractors the builder engaged.

The Law Society therefore proposes that there should be a standard home building contract required by law that will supersede any existing standard agreements. This will clarify the responsibilities of each party and aid resolution of problems that arise later on. The society also proposes that guidance on standards should be included in the mandatory home contract. It endorses the New South Wales Joint Select Committee recommendation that a booklet be published: *The Mandatory Attachment to all Home Building Contracts*. Such attachment would provide consumers, builders, and others in the industry with a basic guide as to how the building code's performance standards may be met.

Contracts should include a warranty to the owner from both the designer and builder. There also needs to be a requirement that the person giving the warranty undertakes to the territorial authority that he or she will continue to meet the required level of financial solvency during the period of the warranty.

We note Standards New Zealand has initiated a revision of the existing 'Housebuilding Contract' NZS 3902.

Guarantees or warranties

A submitter notes that many trade companies have only three-year guarantees, whereas many leaking problems will not be discovered for many years. Another submitter considers that long-term guarantees should be available to cover any non-compliance issues, and to resolve issues of liability. However, another homeowner regards Master Builders' guarantees as 'written by builders to protect builders'. He suggests a mandatory maintenance period of at least one year, with 10 percent retention, to give owners some ability to correct faults, and to introduce incentives for builders to deliver quality work.

Prendos calls for a Commerce Commission investigation of the Master Builders' guarantee. It calls for mandatory homeowner protection, with professional indemnity insurance cover for all industry trades, and with true value guarantees and warranties for products, material, and workmanship.

Another submitter recommends that a 'standard builder's warranty' be required for all new houses, backed by product liability insurance for a meaningful period, having regard to the durability requirements in the building code, which would be transferable to subsequent owners.

The Law Society also proposes that mandatory warranties in standard contracts should be given to the original and subsequent homeowners, and it endorses the British Columbia and New South Wales schemes. Terms could vary depending on what is covered, with at least 10 years for structural matters. Local Government New Zealand proposes that a designated person on-site would also be required to provide guarantees and insurance to cover any building construction defect.

The submission from the five major construction companies proposes that cladding manufacturers should be required to provide 15-year guarantees for the performance of the whole system. A cladding supplier, Plaster Systems Limited, which provides such a guarantee, has the same view. The North Shore City Council also proposes a warranty from the manufacturer or supplier for the installation of proprietary systems of monolithic cladding, which must hold a suitable form of insurance.

Mandatory insurance

Other submitters propose mandatory insurance cover in addition to guarantees or warranties backed by compulsory insurance. One submitter, a building consultant, wants mandatory insurance for all builders. Another submitter proposes compulsory indemnity liability insurance policies for architects, engineers, builders, and developers. The Auckland City Council recommends making insurance mandatory for developers.

The Wanganui District Council wants a statutory insurance scheme, such as that which applies in Queensland, to be considered. A homeowner wants builders to be required to have insurance cover that lasts for 10 years. They would be unable to obtain cover if they lacked skills or building experience and would therefore be unable to act as a builder.

The Law Society says legislative reform is needed before home warranties for builders can be made compulsory, as the current crisis has resulted in the withdrawal of companies prepared to offer insurance in the building market. The ability of the insurance industry to provide insurance cover to builders in respect of liability for breach of warranty should be investigated. The society proposes that information about builders is needed to enable insurers to set premiums according to the risk individual builders present. Quality builders would find it easier to obtain the necessary cover with lower premiums, while low-quality builders would be priced out of the market by premiums that reflected their higher risk.

Some submitters are concerned that insurance companies' refusal to cover private certifiers in relation to water leakage may extend to others involved, such as architects and designers, engineers, and territorial authorities.

Land Information Memoranda

The Law Society supports the Hunn Report recommendation that the information available with Land Information Memoranda should be extended. It considers it should be mandatory that all future LIM reports include details of warranties and inspections. However, the six Auckland territorial authorities do not support LIMs becoming a 'default' pre-purchase inspection record.

Comment

Insurance or bond schemes

The National Party does not support compulsory insurance or a bond on builders. It points out that the motor vehicle industry used to operate a 'fidelity fund' where consumers found little satisfaction because of the unavoidable complications involved in filing claims – the fund has now been disbanded. National believes changes made to tighten regulation, raise skill levels, and a robust accountability regime would close gaps identified in the building sector. National also believes that a bond or insurance scheme would restrict 'properly qualified' participants in the industry that is likely to lead to higher cost, but would not necessarily improve safety or quality concern. National considers that any scheme will be expensive to implement without apparent benefits.

The United Future member is also opposed to compulsory insurance or a fidelity fund, but considers that there is merit in allowing a 10-year bond as an option for companies that are unable or unwilling to provide personal certification of its building work, as earlier recommended in this report.

The United Future member considers that the reinstatement of a Government-backed building performance guarantee scheme, involving a one-off, upfront payment by owners of new homes, ought to be considered as a further protection for homeowners, and would result in the guarantee company assuming responsibility for pursuing claims against building practitioners.

The majority consider that, in terms of increasing consumer protection for the future, bonds and mandatory insurance seem to be a promising line of approach, particularly as many of the worst cases of abuse seem to revolve round building developers, speculators or builders liquidating their companies to avoid liability. The majority considers that the extent and duration of such bonds or insurance could be linked to the track record of the individual or company. For example, a new company might have to post a substantial bond for a long period, while a company with a long and untarnished track record might be able to post a smaller bond for a shorter period. The majority considers that a Government agency such as the Building Industry Authority could administer the system.

Consumer protection agency

Consumers often seem to find themselves fighting organisations with much more experience, which know they can frustrate the action of the individual by simply continuing legal action – whatever the rights or wrongs are of the case – until the individual either runs out of time or money. We consider there may be a role here for the Government. A consumer protection agency could be established within the Building Industry Authority to vet consumer claims brought before it, and, if it assessed that these claims were well founded, pursue them through the courts. In such a situation the ‘tables would be turned’, and maybe a greater level of justice could be achieved with no great effort. In cases of extreme hardship and relatively clear blame, such an agency might even have the power to advance money to applicants ahead of recovery in court.

Many organisations are currently obliged by their insurance company to resist all claims, and in many cases, part of the reason is the current ‘scattergun system’, by which anyone – however remotely connected with the actual event – can be cited on a joint and several basis, whereby the whole cost can fall on the ‘last man standing’. We consider that if responsibility could be assessed on a proportional basis by a neutral agency, so that a fair basis for claim could be established, then more organisations might feel able to settle claims without putting their whole livelihood or their ratepayers at risk. However, the United Future member considers that to be the role of courts or a tribunal, and that stepping outside a proper judicial process to determine building disputes is deeply problematic.

Warranty from developer to new owner

While there are a number of standard building contracts, including NZS 3902, they are usually between the designer and the original owner, or between the builder and the original owner. We note this makes liability tenuous when the original owner is a developer who sells on to the actual occupier, who then takes on all the responsibilities of the ‘owner’ for the purposes of the building regulations. We consider there is a need for a warranty from the developer to the new owner, to the effect that the building complies with the building code in all respects, and some method of transferring the contractual obligations that existed between designers, builders and the developer to the new owner. We note Standards New Zealand has initiated a revision to NZS 3902.

Summary of recommendations**We recommend to the Government that:**

55 The majority considers that key industry players such as building developers, speculators, and builders be required to post a bond to protect consumers from those key industry players that deliberately liquidate their company to avoid liability **or** that a mandatory insurance scheme be developed that would protect and cover consumers from unscrupulous industry players.

56 Consideration be given to establishing a consumer protection agency within the Building Industry Authority to vet consumer claims relating to building disputes brought before it and, if it assessed that these claims were well founded, it was able to pursue them through the courts.

57 A developer be required to provide a new owner with a warranty that guarantees that the building complies with the building code in all respects, and a mechanism is developed that would see the contractual obligations that existed between designers and builders and the developer automatically transferred to the new owner.

Part 11 Building Research Association of New Zealand

Introduction

The principal issue raised by submitters in submissions was the concern that, by undertaking commercially funded product appraisals and consultancy, BRANZ was compromising its credibility as an independent, but certified Government research and testing authority.

Several submitters discuss the role and responsibility of BRANZ in the weathertightness issue. A few submitters consider BRANZ to be responsible for the weathertightness problems, as it approved products and processes implicated in the causes of the problems. One submitter asserts that 80 to 90 percent of the responsibility lies with BRANZ, as it approved exterior coatings, the use of untreated timber, and the lack of interior vapour barriers. The submitter goes on to say that BRANZ has enjoyed compulsory levies from building consent activity, and that it has not paid sufficient attention to inappropriate cladding and construction systems in New Zealand. A product manufacturer, Koolfoam Industries Limited, also expressed concern about the effectiveness of BRANZ, as it had the means to test generic cladding systems, but had not done so. Another submitter voices concern that BRANZ has lowered building standards to the 'shoddy' finished article we have today.

The Wellington City Council considers there is an urgent need to re-assess the involvement of BRANZ and other non-statutory bodies, along with the Building Industry Authority, in the accreditation, approval and appraisal processes in order to provide assistance to all parties involved in the building industry, including territorial authorities.

The five major construction companies express concern about the commercial sponsorship and funding of BRANZ, and recommends that it be a certified Government research and testing authority that is adequately funded to fulfil this independent role. Prendos Limited also wants the inquiry to address the operational conflict with the two sides of BRANZ – its commercial accreditation side and technical scientific arm – asking for greater testing and research to be done under the BRANZ accreditation process.

Prendos calls for the BRANZ board and structure to also be reviewed. Another submitter wants BRANZ to be re-organised so that it concentrates on fundamental research and advice to the industry, and to be funded directly from the building industry levy. It does not want BRANZ to carry out product appraisals or consultancy.

Way forward – practical solutions

We note that BRANZ is very well respected in the industry and employs some very knowledgeable people. We acknowledge BRANZ as the primary source of technical building knowledge in New Zealand.

We agree with some submitters who suggest that BRANZ's commercial and other functions should be totally separate from each other in order to increase the level of assurance that the industry seems to be seeking so that BRANZ's advice is seen to be wholly independent.

Funding for BRANZ currently comes from three sources: the building levy, contestable research funding, and commercially funded product appraisals and consultancy work. If BRANZ were to be barred from taking commercial work, then it is likely that this would have a major effect on its overall financial viability. This would need to be carefully considered if any move in this direction were to be contemplated.

BRANZ seems to see itself as an industry organisation, with its primary responsibility being to the building industry. In fact it strenuously denied any obligation to the general public to act as a monitoring agency. Yet all the finance that supports its optional research programmes comes from the building levy, which is paid by building owners, that is, the public of New Zealand.

Public interest and building industry interests do not always coincide. Suggestions have been made in some submissions that BRANZ needs to give more weight in its actions to the public interest. We agree.

One possible action that might help to address all the above factors would be for the Government to have more representation on the BRANZ Board.

Summary of recommendations

We recommend to the Government that:

58 Given that BRANZ is perceived throughout the building industry as the primary source of independent technical advice, we consider such advice should be freely and widely available to all sectors of the building industry.

59 Consideration be given to ways in which the BRANZ appraisal function could be independently verified to avoid criticism that it is subject to commercial influence, and thus maintain public confidence in this important function.

Part 12 Building Industry Authority

Introduction

Many submitters provide comment on the role of the Building Industry Authority, particularly as it relates to the weathertightness issue. Of interest and concern are the many different views held by submitters about the exact role of the authority. One submitter considers it to be extraordinary that the authority did not see that its role included the need to warn people of the problems. Another submitter says the authority should have been much more perceptive in its auditing of the control system and reacted far more vigorously at the first signs of failure. Another individual perceives that the authority has shifted the blame to everyone but itself for the 'national fiasco' of leaky buildings.

Prendos Limited also regards the authority as having been too slow to act in the face of the weathertightness issues, and asks for the accountability and responsibility of the Building Industry Authority to be assessed, and for the authority to be properly and quickly resourced, so that it can perform its role and operational tasks effectively. The six Auckland territorial authorities requested us to require the authority to issue a clear undertaking as to the steps it intends to take to ensure the situation regarding leaky buildings does not occur again. They want the administration and regulation of alternative solutions to be urgently reviewed.

For the future, the Manukau City Council suggests it may be necessary to clarify or strengthen the role of the authority, as the 'do nothing' approach has done everyone a disservice. It questions why the authority did not issue some form of warning to consumers, amend or clarify the relevant provisions of the building code, or take some other appropriate action. The council considers that, even now, there are matters arising in which the authority should be taking a lead, and that it is failing to do so. In particular, members of the Manukau City Council referred to the need to mediate with insurance companies on the insurance cover available to independent certifiers and believe that the Building Industry Authority has not done so. It considers that the authority should also have cautioned against the use of certain types of monolithic cladding for a certain period, advocated the use of treated timber until the use of untreated timber has been properly investigated, and proposed more inspections at certain critical weathertightness phases of the construction process.

The Construction Industry Council considers that the authority should take a more active role in setting and controlling standards within the industry, and a more responsive approach to analysing industry issues as they arise and acting to resolve them. The Wellington City Council considers that there is an urgent need to reassess the involvement of the Building Industry Authority, and other non-statutory bodies such as BRANZ, in the accreditation processes in order to provide assistance to all parties involved in the building industry, including territorial authorities. BRANZ comments that the authority has not been able to control the way producer statements have come to be used, in part, because the authority has few powers with regard to territorial authorities.

Another submitter considers that the authority needs to be looked at as it sets the acceptable solution documents, which industry members have to follow considering that some of the older details are still better than the present details. Other submitters regard the Building Industry Authority, together with the Standards Council, as liable for

problems, as they approved products and methods that have proved to be defective. Several submitters also hold the authority to be partly responsible for the allowance of untreated timber.

The Law Society considers that any performance-based approach needs to be matched by a regime of quality delivery and testing. While inspections are important, the standards released by the authority are also important. The society believes the authority should have asserted itself a lot earlier with regard to the current weathertightness problems.

However, the Institute of Clerks of Works does not consider that it is fair or right for people to be aiming their sights on the authority as the guilty party. The institute views the Government, the authority, and the building industry, and developers as all being collectively to blame for the weathertightness problems.

Alexander and Company asks whether the role of the authority could be expanded in certain respects, and whether it receives adequate Government funding. Another submitter wants the authority to take a more active role in ensuring councils and builders meet the requirements of the Building Act – taking into account the functions of the authority under section 12.

One submitter recommends that the authority set up a formal feedback procedure with territorial authorities and others to enable it to detect patterns of failure over particular building types and methods. Another submitter considers that the authority needs radical reform to achieve the outcomes the industry needs. Other submitters also call for a strengthened research role. Two submitters indicate that they would be prepared for the levy rate to be increased to accommodate this.

The Federation of Master Builders and the New Zealand Construction Industry Council want the authority to take a proactive approach to undertaking timely intervention, research, and guidance as industry issues arise. These submitters also consider that a regular industry forum should be established at a national level, where industry issues relating to inspections, design standards, materials, and systems could be raised, investigated and reported back to the Government and industry. These two industry organisations consider a stronger, more transparent level of co-operation and funding of the three current standard setting agencies (the authority, Standards New Zealand and BRANZ) is required.

View of Building Industry Authority

We note the view of the Building Industry Authority that its control function is about outcomes and not the processes required to achieve them. The authority submits that if the nature and extent of the authority's control function is to be changed, it can be changed only by Parliament, as this cannot be changed of the authority's own volition in response to its perception of public needs. The building consent and building code compliance certificate, as the key control instruments, are administered by territorial authorities, and the Building Industry Authority considers that it has very limited ability to influence their building control performance.

The authority is of the view that the best, and only, responsible way forward on the weathertightness issue was the appointment of the Overview Group. It concludes:

The fact that the Building Industry Authority took action, as and when, it did resulted in:

... a report that was so authoritative and thorough that there was no need for any further research, studies, steering groups or working parties;

... steps being taken immediately to resolve the weathertightness problem. The Ministerial Weathertightness Taskforce was formed. Those directly affected by the problem have been afforded a means of redressing the problem through the Government's mediation and adjudication services enacted in the Weathertight Homes Resolution Act 2002 on 21 November.

Documents released under Official Information Act 1982

The Building Industry Authority in response to an Official Information Act 1982 request from the National Party released large volumes of documents. The documents released were referred to the committee for its consideration.

The documents indicate that weathertightness has been an issue within the building industry for a number of years. A key area of debate from the beginning has been the extent of the weathertightness problems and the consequent need to obtain reliable information.

Statutory role of Building Industry Authority

Section 12 of the Building Act details the functions of the Building Industry Authority. These place a responsibility on the authority to:

- advise the Responsible Minister on matters relating to building control
- approve documents for use in establishing compliance with the provisions of the building code
- determine disputes in relation to building control
- undertake reviews of the operation of territorial authorities and building certifiers
- approve building certifiers
- grant accreditations of building products and processes
- disseminate information and provide education programmes on matters relating to building control
- take all possible steps to achieve the purposes of the Act.

While these functions appear to adequately cover all aspects required of an institution to manage New Zealand's building industry, indications are that they have not enabled the Building Industry Authority to effectively control regulation of New Zealand's building industry. Some submitters consider that, given the functions prescribed for the authority in the Act, it could have acted to prevent or minimise the impact of the weathertightness issues. It is a concern that the authority did not pick up on the severity of the weathertightness issues earlier.

Comment

The majority considers the key issue is the future role of the Building Industry Authority and not whether it discharged its statutory responsibilities under the Act. While the role of the authority may be one of provision rather than enforcement, we note that many submitters have raised concerns about its ability or willingness to act. It is also a concern that many of the submitters seemed to have a different perception of the mandate, powers, and freedom of action the authority actually has.

We note the Weathertightness Overview Group also expressed concern that the authority had adopted a relatively low-key administrative approach to its functions. As a direct result of the Overview Group's findings, the Government intends to:

- review the role, structure, and resourcing of the Building Industry Authority, with a view to enabling it to provide a more comprehensive service to the public and industry
- reassess the scope and implementation of the functions of the authority in relation to how it is to achieve the purposes of the Building Act.

The Government has also taken decisions to immediately increase its monitoring of the Building Industry Authority. It has moved responsibility for monitoring the Crown's ownership and purchase interests in the authority from the Department of Internal Affairs to the Ministry of Economic Development from 1 January 2003, under the auspices of Hon Lianne Dalziel, Minister of Commerce.

Way forward – practical solutions

The majority considers that the role of the Building Industry Authority needs to be reviewed, and, if necessary, new fields of action and responsibility established to enable it to take the leadership role in setting and maintaining quality standards in the industry. The majority considers the authority needs to be given the legislative authority and the resources to carry out such a role. The current split in the legislative system, whereby the authority sets the building standards but territorial authorities enforce them, seems to leave a number of 'grey areas' where no one seems to be taking responsibility. The majority recommends that any review of the future role of the authority consider the possibility that it be placed in charge of ensuring the quality and consistency of both the provision and enforcement of building control.

Members of the National Party and the United Future member consider that section 24 of the Building Act already provides the Building Industry Authority with sufficient legislative powers to take the leadership role in setting and maintaining quality standards in the building industry.

It is clear from the submissions we received that the authority needs to engage in a much more proactive and rigorous approach to quality control than it has done in the past. It also ought to address, with urgency, the problems that are apparent, and which cause friction between territorial authorities and private building certifiers.

Submitters also suggest that the authority needs to set mechanisms in place to make sure that it can discover and be informed at an early date when problems are arising within the

building control provision and enforcement sector, when standards are being eroded, and when failures are taking place. It then needs to take rigorous, proactive action to verify the actual situation, and take decisive action to remedy or resolve the issue or problem.

Summary of recommendations

The majority considers that the role of the Building Industry Authority should be reviewed and if necessary new fields of action and responsibility established in legislation to enable it to take the leadership role in setting and maintaining quality standards in the industry. The majority of us consider that any review needs to examine the possibility that the Building Industry Authority being placed in charge of ensuring the quality and consistency of both the provision and enforcement of building control in New Zealand. The majority considers the Government must improve the ability of the Building Industry Authority to operate effectively in both in the provision and enforcement of building control.

We therefore recommend to the Government that:

60 Sections 12 and 24 of the Building Act 1991 are reviewed to provide that the Building Industry Authority have overall responsibility for the administration of the Act. Review of these sections of the Act must also clarify lines of accountability between the Building Industry Authority and territorial authorities.

61 The Building Industry Authority take immediate steps, and to have an ongoing responsibility, to address problems between territorial authorities and private building certifiers.

The Building Industry Authority needs to make sure it can discover and be informed at an early date when problems are arising within the building control and enforcement sectors, when standards are being eroded, and when failures are taking place. One of the authority's key functions must therefore be to the continuous improvement of quality standards within the building industry.

62 The Building Industry Authority develops and implements a monitoring regime to maintain quality standards within the building industry.

Part 13 Review of Building Act 1991

Introduction

The Wellington City Council expresses concern that the current review of the Building Act by the Government has not progressed with any urgency, and that the terms of reference for the review are very limited. The council calls for the review's scope to be increased to include the weathertightness issue, and coupled with the allocation of appropriate resources and priority within the Government's legislative programme. The council also suggests that the review include:

- more definition of the role and responsibilities of the Building Industry Authority
- clarification of the role of BRANZ appraisals, New Zealand Standards, and other processes
- the issue of best practice guidelines
- the regulation of builders
- enforcement options for rectification of building defects once a code compliance certificate is issued.

BRANZ considers that the current legislative base, including the Building Act and building code, is deficient in detail in a number of critical areas. We note BRANZ made a submission to the Government's review of the Act in September 2001 and requested improved regulation in all areas of the building industry – inspectors, builders, product manufacturers.

The Institute of Professional Engineers of New Zealand says that the weathertightness issue is the most obvious symptom that all has not gone well since the Building Act was passed. The institute notes that the legislation has been in place for 10 years with no major review. It considers that legislation, as important as this should be subject to regularly scheduled and comprehensive review. We agree.

The New Zealand Institute of Building suggests the Government should consider the appointment of a Minister of Construction or a Minister of Works.

Steps taken by the Government

The Government announced its review of the Building Act in its 1999 Budget. The terms of reference for the review were to review:

The operation of the Act and to identify options, both legislative and non-legislative, for improving the effectiveness of the overall building control regime and quality of regulation provided for by the Building Act 1991. The emphasis is on identifying ways in which further innovation and efficiencies can be achieved.

Hon George Hawkins, Minister of Internal Affairs, in his submission informed us that the Government has considered the findings of the Weathertightness Overview Group contained in the Hunn Report and, as a result, has decided to extend the scope of its

current review of the Building Act.¹⁶ We note that the Minister intends that the extended review is to incorporate the findings of the previous review and consider the findings and recommendations of this inquiry. We are pleased to see that the Government intends to make decisions on its review of the Building Act in time to introduce and pass legislation to implement the review's findings in 2003.

Comment

BRANZ expresses concern that the present legislative base, including the Building Act and the building code, is deficient in detail in a number of critical areas, and its request for improved regulation in all areas of the industry, inspectors, builders, product manufacturers seems to reflect comments and criticism made in many of the submissions relating to the specific terms of reference to this inquiry. The points made by Wellington City Council are also relevant and need to be considered by the review committee undertaking the review of the Act.

It is recommended that the review committee carefully consider just how permissive we can afford to be in our building control. A number of submitters suggest that in an attempt to encourage innovation and cheapen construction, several poorly considered and documented systems have been accepted as alternative solutions. It may be that some middle ground needs to be considered, where innovation is not prevented, but where the public can be certain that new systems have been thoroughly tested and vetted for New Zealand conditions and the specific conditions of the building being constructed.

There is a widely expressed view that building standards have perceptibly fallen in New Zealand during the last decade or so. It would be appropriate for the review committee to find out whether this is indeed true or not. Several submitters suggest that it is time for New Zealand to return to the notion of aiming building regulations at good trade practice – bearing in mind that the standards set will inevitably become the norm, and not the baseline – and the standards set in 1991/2 were intended to be the baseline, and not the norm, but it is now more than 10 years on from the time such standards were set. In most other industry sectors a 10-year gap in between reviewing standards would automatically suggest that new and better standards should be set. Bearing these factors in mind, it may be timely for the review committee to reconsider the levels set for building construction in New Zealand.

Recommendation

We recommend to the Government that:

63 The extended review of the Building Act 1991 be completed as a matter of urgency so amendment of the Act can be effected.

¹⁶ Refer to submission 222A.

Part 14 Minority view of the National Party

Introduction

National Party members believe that the report does not deal with the accountability issues that lie at the heart of the leaky building fiasco. Nor does the report suggest immediate steps to give confidence to homeowners and the building industry. Instead, the report is focused on medium and long-term issues. These measures will not stop leaky buildings being built right now. The result is that New Zealand families can not have confidence that homes built this year will not rot, destroying the most important financial asset that most New Zealanders will ever own.

Accountability

There were and still are multiple failures of accountability. These have occurred both in the Building Industry Authority and with the Minister of Internal Affairs, Hon George Hawkins. It is clear from the evidence that the Building Industry Authority was advised of the problem as early as 1995. These warnings were repeated numerous times by experts in the building industry. The failure of the Chief Executive, Dr Porteous, to act was so grave that on 28 August 2001 the staff of the authority wrote a memorandum to the chief executive asking whether people had to die as a result of a collapse of a balcony before an investigation would take place.

Only then did the chief executive act to recommend to the Building Industry Authority Board that a committee of inquiry be established. This finally occurred on 28 February 2002. Since the report of the Hunn committee, the chief executive still appears to have failed to grasp the seriousness of the situation. This was most recently illustrated by the revelation in the annual plan of the Building Industry Authority that instead of a survey being conducted to gauge the scale of the problem, a literature survey was to be undertaken. During parliamentary questioning, the Minister of Finance has refused to express confidence in the chief executive, suggesting disciplinary action would be undertaken at the end of the select committee process. The failings of the chief executive are so serious that this resignation should be required. This will be part of restoring confidence in the Building Industry Authority.

The Minister has also been found seriously deficient. This has been clearly recognised by this Government that the responsibility for the Building Industry Authority has been removed from the Minister of Internal Affairs to the Minister of Commerce. The Minister of Internal Affairs simply failed to heed warnings. He was written to twice by senior members of the building industry, and by one of his colleagues, Ann Hartley, in July and August 2001. Replies were prepared by the Department of Internal Affairs on advice from the Building Industry Authority. The Minister has publicly argued that these reply letters did not put him on enquiry and, in the words of the Prime Minister, were 'fob off letters'. Given the gravity of the warning, it is disingenuous of the Minister to say he was not properly warned. He was, and his lack of enquiry has meant that this crisis has lasted longer than was necessary.

The Minister has claimed he was not formally warned until 30 April 2002, some eight months after the establishment of the Hunn inquiry. This points to serious failings, either on the part of the Minister, his office, the Department of Internal Affairs, or the Building Industry Authority. One can only hope that the current Minister will pay closer attention to the activities of the authority than her predecessor.

The Minister's actions are not surprising in light of the statement by the Prime Minister's answer accusing the media of 'banging on about issues of no substance' in respect of the leaky building crisis. This statement has created an environment whereby the Minister and the Building Industry Authority have not been able to acknowledge the scale of the crisis facing homeowners.

The Minister's failure to act when first notified, his failure to make proper enquiry and his lack of responsibility following the Hunn Report has severely damaged the confidence of homeowners. That is why the National Party believes he should have resigned.

Remedial action

The leaky homes crisis has called for immediate action on the part of the Government. These are primarily the establishment of a dispute resolution process, the modification of the building code, and a survey of homes that could be affected to find out the extent of the problem.

So far, only the dispute resolution process has been established. This only occurred due to sustained pressure from the Opposition. Already there have been 481 claims covering 968 dwellings filed with the Weathertightness Tribunal. The scale of the problem is not yet fully apparent, and many more claims will be made over the next few months.

There have been repeated calls for immediate changes to the building code, relating to the use of untreated timber and drainage cavities in walls. It is now eight months since the Hunn committee reported and there has been no alteration to the code. This means thousands of homes have been built with untreated timber and deficient wall design.

A prudent approach would have led to much faster action, ruling out, at least for the time being, untreated timber and requiring a drainage space in monolithic clad walls. This failure largely belongs to the Building Industry Authority that seems to have difficulty in coming to grips with the scale of the problem.

The third step required is a survey of the problem. This should be at least initially a sample survey of the types of homes at greatest risk. These categories are well known. Instead, the Building Industry Authority is conducting a literature survey.

The failure of the Building Industry Authority to assess the scale of the problem and to change the building code reflects a Minister unable or unwilling to take the necessary leadership that would give the public confidence in the Building Industry Authority.

Summary

The leaky homes crisis has powerful lessons for statutory boards and for Ministers to whom they are accountable. When public confidence in an industry is seriously damaged, as has happened in this case, there is a need for action. This has not happened in this case. As a consequence, public confidence has been seriously undermined by the lack of urgency from both the Minister of Internal Affairs and the Building Industry Authority. No one has been seen to take accountability or responsibility. This erodes confidence. Proper leadership and appropriate disciplinary action at the right time would have gone a long way to averting the scale of this crisis.

Part 15 Minority view of the New Zealand First Party

New Zealand First's minority view covers a number of issues. The terms of reference for the inquiry were too restrictive and did not allow the committee to examine key elements, which have left homeowners with little or no remedies. The Weathertight Homes Resolution Service is really only a 'band-aid' attempting to deal with a gaping wound.

Areas not adequately covered by the report

- Terms of reference for the inquiry.
- Property Developers and the Companies Act 1993.
- Architects and draughtspersons.
- Territorial authorities.
- Standards New Zealand.
- The Weathertight Homes Resolution Service.

Terms of Reference for inquiry

The terms of reference for the select committee were too restrictive and did not allow the committee to examine key elements that have left homeowners with little or no remedies.

Property Developers and The Companies Act 1993

A full public inquiry is required to examine the cases of property developers evading their responsibilities for leaky homes by hiding behind the 'veil of incorporation'. The Companies Act needs a thorough review to broaden the investigation into company and their principals' liability issues. The current law permits voluntary liquidation thus allowing the principals to escape liability. The legislation needs to allow the courts more discretion and enable access to the assets of directors where it is clear that by liquidating they have avoided their responsibilities.

Architects and draughtspersons

Building styles to match the need for medium density housing has seen a proliferation of multi-unit developments with resulting complexity in design and construction requirements. A culture has developed to keep costs to a minimum, which has resulted in architects and draughtspersons providing little or no flashing details on plans and designs. Where cross sections are required architects and draughtspersons have adopted the practice of providing the simplest cross section to satisfy territorial authorities at the same time satisfying the need to reduce costs. Many of these buildings have very complex design features with many potential areas for leaks and faults that have caused many of the problems.

Territorial authorities

Territorial authorities have accepted the practices of minimal details on plans from the architects and draughtspersons as standard practice on the assumption that builders will automatically add the necessary details during construction.

There should be a requirement that territorial authorities follow-up on outstanding building code compliance certificates and demand that all buildings are accordingly signed off. This will overcome the problems with the current inspection system and would not require the committee's recommendation in the report calling for the downgrading of building certifiers to building inspectors.

Standards New Zealand

The lack of public funding for Standards New Zealand has resulted in the need for standards to be sponsored. The moment a standard loses its sponsor the standard lapses. There is a growing concern that industry groups with vested interest in a standard are sponsoring a review of that standard to skew it in their favour. This is a parallel to the BRANZ accreditation process and the resulting problems that have contributed to the leaky buildings problems.

Weathertight Homes Resolution Service

The Weathertight Homes Resolution Service is really only a 'band-aid' attempting to deal with a gaping wound. Without the ability to pierce the 'veil of incorporation' and access the assets of principals of incorporated developers we will see more and more developers liquidating to avoid their liabilities and responsibilities to the owners of leaky homes.

Appendix A

Committee procedure

Approach to inquiry

At its 19 September 2002 meeting, the Government Administration Committee resolved to conduct an inquiry into the weathertightness of buildings in New Zealand. The committee called for public submissions on the inquiry. The closing date for submissions was 21 October 2002. Hearing of evidence took 30 hours and 56 minutes and the committee spent a further 11 hours and 37 minutes in consideration.

The committee received 223 submissions, along with many supplementary submissions from the organisations and individuals listed in Appendix B of this report. The committee heard 87 of the submissions at hearings held in Wellington, Christchurch, and Auckland. It considered the advice, reports, and background information listed in Appendix C.

The Department of Internal Affairs was the key Government adviser to the committee. During the inquiry, the Ministry of Economic Development was also appointed as an adviser. Initially the Building Industry Authority was appointed as an adviser, but the committee later gave leave to rescind this decision.

The committee also received independent specialist advice from John Storey from the Faculty of Architecture and Design, Victoria University, Wellington and independent specialist legal advice from Peter Jenkin *QC*.

Adverse finding

The minority view of the National Party, indicated in this report, contains comments in regard to the conduct of the Chief Executive of the Building Industry Authority. We identified similar comments made in the committee's report on the financial and operational performance of the Building Industry Authority for the financial year ended 30 June 2002 as being adverse findings pursuant to Standing Order 242. Those findings were forwarded in draft form to the Chief Executive to give him an opportunity to make a submission to us on them. The Chief Executive made a submission to us on these findings, which we took in to account before presenting our financial review report and this report. The Chief Executive's submission was attached to our financial review report.

Committee personnel

Dianne Yates (Chairperson)
Pansy Wong (Deputy Chairperson)
Brent Catchpole*
Deborah Coddington*
Steve Chadwick
Russell Fairbrother
Sandra Goudie
Sue Kedgley*
Murray Smith*

Dr Wayne Mapp replaced Sandra Goudie for this item of business.

* The House of Representatives gave leave for these members to be members of the Government Administration Committee for this item of business, but without any voting rights.

Committee staff

Lesley Ferguson (Clerk of the Committee)
Toakase Tonga, Parliamentary Officer (Select Committees)
Michele Charleton, Parliamentary Officer (Committee Support)

Appendix B

Inquiry into the Weathertightness of Buildings in New Zealand – List of submitters

Number	Name
2W	Clive Sparrow
3W	Tony Kaye
4	Roland Mosley
5W	Clint Smith
6	Butley Properties Limited
7, 7A	R A Roche
8	Dianne Monk
9W, 9A to 9C	Jan de Nicolo
10	Thomas G P Morgan
11, 11A to 11C	Koolfoam Industries Limited
12W	Gerald J Elliott
13W	Ray Clarke
14, 14A	Sharron Rose Hewett
15W	Rod Cook
16W	Duncan McCormack
17W	Irene Wilkinson
18W	R J Foster
19, 19A	Ewan Higham Franklin District Council
20	Secret evidence
21	Mark Trim
22W, 22A	Len Cadzow
23	Prendos Limited
24	David Searle Builder
25	Graham Johnson and Heather Bunning
26	Joy Mace
27W	Lyll Duffus
28W	Janet Kemp
29, 29A	CEW Management (New Zealand) Limited
30W	Paul and Robin Keown
31, 31A to 31B	Hugh Chapman
32W	Gribble Hirst Limited
33W	John Irvine
34W	H L A Morley
35, 35A	G V Buckley

36	Kim Hamilton, Modus Project Management
37, 37A	Kapiti Coast District Council
38	Auckland Territorial Authorities
39, 39A	Building and Property Consultants Limited
40	Bob Simpson, A4 Simpson Architects
41W	M J Palmer
42, 42A	Stuart W Thomson Building Consultant
43W	Alan J Hanson
44W	Grant Mowlem
45	North Shore City Council
46	Andrew Coldham-Fussell
47W	New Zealand Metal Roofing Manufacturers Incorporated
48, 48A	Auckland City Council
49, 49A to 49D	School of Building Technology, UNITEC, Institute of Technology
50, 50A	Allan Associates Consultancy
51W	Stuart Crosswell
52, 52A	New Zealand Building Trades Union
53, 53A	Wanganui District Council
54, 54A	Whakatane District Council
55W	Blair Wilmshurst
56, 56A	Martin Emery
57W	C H Augustein
58W, 58A	David Sayers
59, 59A to 59B	Manukau City Council
60	First Windows and Doors
61, 61A to 61C	Bruce Drummond
62W	Colin Monks
63W	Thomas Muller
64, 64A	Mike and Sue Ryan
65, 65A to 65B	Henk Prins
66, 66A to 66B	A J Pope
67W	David Pearson
68W	Steve and Chris Nock
69, 69A	Matt Newby
70	Doris Sayer
71, 71A	Lois Kerr
72, 72A	Megan Knight
73W	Kushla Taylor
74W	Jessica Adams
75W	Vernon Wall
76	Jim Tomic
77W	Rosemary and Gordon Vial

78W, 78AW	Joy Jenner
79W	Gillian Knight
80W	David Higgins
81W	Nick Freeman
82W	Glennis Couchman
83	Plaster Systems Limited
84W	Richard Westerman
85W	M I Watkins
86W	Maryanne Walker
87	Grange Owners Committee
88W	Chris Taylor
89W	Lynn Tarrant
90W	Peter Strong
91	David Smith
92, 92A	Scott Simon
93W	Alan Simon
94W	Kevin Simmonds
95W	John and Louise Shaw
96W	Callie Sandford
97W	Quentin Ross
98W	Grant Robertson
99W	Douglas Reid
100W	Alistair Rattray
101W	Janine Ramsey
102W	Kevin O'Brien
103W	Chris and Cathryn Putman
104, 104A	Teri Nichol
105	Colin Prouse
106W	Peter Nagels
107W	Brian Muir
108, 108A to 108B	Dr Jackie Blue
109W	Phillip Anderson
110W, 110A	Dianne Ashleigh
111W	W B Axeby
112W	Jason Allen
113W	Darryl and Karen Abbot
114W	Gordon Chisholm
115	Oi Hei Chan
116W	Carole Buckley
117, 117A	Warrick Boag
118W	Louis Boeyen
119W	Michael Coote
120	Robyn Ede
121	Paul Dolheguy
122W	Ken and Val Hall
123W, 123A	Keith Hull
124	Tracy Hill

125	Wellington City Council
126W	Craig McLeod
127W	Wayne Mills
128W	Paul McKendry
129, 129A	Ron and Sue McHale
130W	Tere McGrail
131W	Alan McGuigan
132W	David K Lynn
133W	Daniel Leung
134, 134A	Jim Kirkland-Smith
135W	S Dawn Knight
136	Phillip and Pritty Kelleway
137	A J Keay
138W	Rex Johnstone
139W	Colin and Margaret Johnson
140W	Julia S Jiang
141	Laurie Gibson
143W	Stephen Ireland
144	Secret evidence
145W	C Hopewell
146W	Steve Hilliar
147W	Peter Grogan
148W	Mandica Godoy
149W	Tony Gilfedder
150W	D Gatland
151	Albie Gardiner
152W	Ann Fletcher and Allan Walker
153W	T Fijn
154, 154A	Rodney and Catherine Fergusson
155W	Carl Dunwoody and Hyeun Kim
156	Peter and Diane Day
157	Colleen and David Cullen
158, 158A to 158C	Building Research Association of New Zealand Incorporated
159W	Bernard Wright
160, 160A to 160B	Standards New Zealand
161, 161A	New Zealand Construction Industry Council
162	New Zealand Institute of Building Incorporated
163W	AHI Roofing Limited
164W	Mat Wakelin
165, 165A	Mainzeal Property and Construction Limited
166, 166A to 166B	Donald H McRae
167W	Raymond Banham

168, 168B	Building and Construction Industry Training Organisation
169W	Kevan Rasell
170, 170A	The Mills Building Company
171W	David and Judith Hall
172, 172A	Fletcher Challenge Forests Limited
173, 173A to 173B	Carter Holt Harvey Innovision
174W	David Cole and Helen Broome
175	Tony Watkins
176W	D Cochrane Builders
177W	Byrne and Wanty Consultants Limited
178W	Dr John A Butcher
179, 179B	Dr Russell Burton
180, 180A	Toxicity Testing and Treatment HB 2000 Limited
181	Garry Shuttleworth
182	Michael Taylor
183	New Zealand Institute of Forestry Incorporated
184W	Redway Developments Limited
185	Peter O'Hagan
186W	Colin Reeves
187	Jan Gillespie
188, 188A	Architectural Designers New Zealand (Incorporated)
189W	Hawkes Bay Building Certifiers and Consultants Limited
190	Consumers' Institute of New Zealand Incorporated
191W	School of Architecture, UNITEC, Institute of Technology
192W	Cynthia Yeap
193W	Peter Withiel
194	Margaret and Geof Wilson
195W	Felgrove Enterprises Limited
196W	Dave and Angela Widdowson
197	Nigel Cook Architects
198	Secret evidence
199	Christchurch City Council
200, 200A	Roger Hay
201	New Zealand Institute of Architects Incorporated
202, 202A	William L Carswell
203	Alexander and Company Limited
204	Institute of Professional Engineers New Zealand

205, 205A	Lesley Andrews
206	Sheryl Rasmussen
208W	Seager Mason
209	Loris Bain
210, 210A	Waitakere Consulting Engineers
211	Enviro Clean and Restoration Limited
212, 212A to 212B	T A Foley
213, 213A	New Zealand Registered Master Builders' Federation
214	Local Government New Zealand
215, 215A to 215C	G R Bayley and Associates Limited
216W	Dunedin City Council
217W	Grant Hardie
218, 218A to 218B	New Zealand Institute of Clerks of Works
219	New Zealand Law Society – Property Law Section
220	Sir George Chapman
221, 221A to 221B	Building Industry Authority
222	Hon George Hawkins
223, 223A to 223B	Ian Holyoake – Hitex Plastering Limited
224W, 224A	Occupational Safety and Health Service of the Department of Labour

General correspondence received

N N Rodley
 Paul Faccoory Condensation Control Limited
 B G Drinkwater
 B G Smith
 Conecta
 Tile Decor (1994) Limited
 Gordon Dixon
 Irene Atkinson
 Debra Christensen Design

Appendix C

Advice, evidence, and information received from:

Specialist advisers

- INQ/LEAKY/PJ/1 Memorandum from Peter Jenkin *QC* to the Government Administration Committee, dated 19 December 2002.
- INQ/LEAKY/ST/1 The Way Ahead: An Overview, provided by John Storey, dated 19 December 2002.
- INQ/LEAKY/ST/2 Report on inquiry into weathertightness of buildings in New Zealand, provided by John Storey, dated 12 February 2003.
- INQ/LEAKY/ST/3 Comments on submission to the inquiry into the weathertightness of buildings in New Zealand from the Office of the Minister of Internal Affairs, provided by John Storey, dated 13 February 2003.

Minister Responsible for Weathertightness Ministerial Taskforce

- INQ/LEAKY/CULLEN/1 Copies of the documents released under the Official Information Act 1982 by the Building Industry Authority and provided to the Government Administration Committee by Hon Michael Cullen.
- INQ/LEAKY/CULLEN/2 Draft Supplementary Order Paper, November 2002 on the Construction Contracts Bill.
- INQ/LEAKY/CULLEN/3 Copy of letter from BRANZ to Hon Dr Michael Cullen, Minister in Charge, Weathertightness Taskforce, dated 12 November 2002.

Ministry of Economic Development

- INQ/LEAKY/MED/1 Briefing note from Ministry of Economic Development on Timber Treatment Status as at 5 March 2003.

Department of Internal Affairs

- INQ/LEAKY/DIA/13 Review of the Building Act 1991: A Discussion Document August 2001.
- INQ/LEAKY/DIA/12 Draft Summary of Issues Arising from Submissions to the Original Building Act Review (2001): Scope and Interface with Other Regimes, dated 16 December 2002.
- INQ/LEAKY/DIA/11 Notes used by Joy McDowall (adviser) when briefing the Government Administration Committee on 12 December 2002 about the Summary of Submissions to the Inquiry into the Weathertightness of Buildings in New Zealand.
- INQ/LEAKY/DIA/10 Report to Government Administration Committee: Summary of Submissions to the Inquiry into the Weathertightness of Buildings in New Zealand, dated 9 December 2002.

- INQ/LEAKY/DIA/9 Letter of Ministerial Expectations for 2002/2003 Financial Year from Hon George Hawkins, Minister of Internal Affairs to Presiding Member of the Building Industry Authority, dated 25 March 2002.
- INQ/LEAKY/DIA/8 Progress advice on Weathertight Homes Resolution Service as at 28 February 2003.
- INQ/LEAKY/DIA/7 Report summarising documents released by the Building Industry Authority, dated 22 November 2002.
- INQ/LEAKY/DIA/6 Copy of new set of overheads relating to the *Building Control Before and After the Building Act 1991* presentation given to the committee by the Department of Internal Affairs.
- INQ/LEAKY/DIA/5 *First Schedule of the Building Code*, dated 21 October 2002.
- INQ/LEAKY/DIA/4 *Examples of approved documents under section 49 of the Building Act 1991*, dated 21 October 2002.
- INQ/LEAKY/DIA/3 Building Industry Commission: *Reform of Building Controls Volume 11, Report to the Minister of Internal Affairs*, January 1990.
- INQ/LEAKY/DIA/2 Building Industry Commission: *Reform of Building Controls Volume 1, Report to the Minister of Internal Affairs*, January 1990.
- INQ/LEAKY/DIA/1 Copy of presentation made by the Department of Internal Affairs to the committee on *Building Control Before and After the Building Act 1991*.

Building Industry Authority

- INQ/LEAKY/BIA/2 Synopsis of presentation to the committee by the Building Industry Authority.
- INQ/LEAKY/BIA/1 Diagram showing how the Building Industry is regulated, prepared by the Building Industry Authority.

Reports provided by Clerk of Committee

- Copy of Ministry of Economic Development Discussion Document, titled *Better Regulation of the Building Industry in New Zealand*, released 12 March 2003.
- Copy of the Auckland Housing Cladding Survey (2000).
- Copy of the Building Industry Regulations 1992.
- Copy of the Building Industry Act 1991 and Amendments.
- Report of the Joint Select Committee on the Quality of Buildings, Parliament of New South Wales, titled *Report Upon the Quality of Buildings*, dated July 2002.
- Report submitted to the Lieutenant-Governor in Council, by Dave Barrett, Commissioner titled *The Renewal of Trust in Residential Construction, Commission of Inquiry into the Quality of Condominium Construction in British Columbia*, dated June 1998.
- Report of the Overview Group on the Weathertightness of Buildings to the Building Industry Authority, dated 31 August 2002.

Appendix D

Extract of clauses B2 and E2 of the building code

The Building Code		Relevant to
Performance B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated or: (a) The life of the building, being not less than 50 years, if: (i) Those building elements (including floors, walls, and fixings) provide structural stability to the building, or (ii) Those building elements are difficult to access or replace or (iii) Failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building. (b) 15 years if: (i) Those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or (ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building, but would be easily detected during normal maintenance. (c) 5 years if: (i) The building elements (including services, linings, renewable protective coatings, and fixtures) are easy to access	Limits on application B2.3.1 applies from the time of issue of the applicable code compliance certificate. Building elements are not required to satisfy a durability performance, which exceeds the specified intended life of the building.	Structural framing behind claddings Claddings that provide structural stability (bracing) Cladding systems

and replace, and (ii) Failure of those building elements to comply with the building code would be easily detected during normal use of the building. B2.3.2 Individual building elements which are components of a building system and are difficult to access or replace must either: (a) All have the same durability, or (b) Be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement. E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements. E2.3.3 Walls, floors and structural elements in contact with the ground shall not absorb or transmit moisture in quantities that could cause undue dampness, or damage to building elements. E2.3.5 Concealed spaces and cavities in buildings shall be constructed in a way which prevents external moisture being transferred and causing condensation and the degradation of building elements. E2.3.6 Excess moisture present at the completion of construction shall be capable of being dissipated without permanent damage to building elements.		Protective coatings Building paper, veneer ties Cladding systems Details at the base of cladding systems Cladding systems Enclosed framing timber
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