Kaikoura District Council

Building Act 2004

Earthquake – Prone, Dangerous and Insanitary Buildings

Policy 2006

Adopted by Council 21st June 2006

Reviewed – February 2012

Introduction

The Building Act 2004 ("the Act") requires Council to adopt an earthquake-prone dangerous and insanitary buildings policy to ensure that all earthquake prone dangerous and insanitary buildings are identified, assessed, corrected or strengthened to at least the minimum prescribed standard to reduce the potential of injury, illness, loss of life and damage to other property in the event of a moderate earthquake or dangerous / insanitary building identification. This consideration could in some cases result in the demolition of a building.

It is a mandatory requirement of the Act S. 131 that Council implements specific Policy and S. 132 sets out the procedures in terms of the introduction and formulation of the Policy.

The policy is required to state:

1. the approach that Kaikoura District Council will take in performing its functions under the Building Act 2004

2. Kaikoura District Councils priorities in performing those functions

3. how the policy will apply to heritage buildings

In developing and adopting this policy Kaikoura District Council will have followed the consultative procedure as defined by section 83 of the Local Government Act 2002.

The Building Act 2004 requires this Policy to be in place before 31st May 2006

This policy is required to be reviewed at least every five years thereafter.

Local Seismic Indicators

Kaikoura District is directly involved with seismic futures having numerous faults and thrusts within its boundaries. The formation of the seaward and inland ranges and valleys stand testament to this fact.

A pictorial demonstration of the multiple seismic influences can be seen in the A3 map attached to the Woodward – Clyde Seismic Hazard Evaluation Report prepared for Kaikoura District Council and dated September 1995.

Clearly defined strike-slip and thrust faults have been identified to the extent that our Kaikoura District is the most seismically active area of New Zealand.

The Woodward – Clyde evaluation of seismic hazard in the Kaikoura district has recommendations that should be considered in terms of the Long Term Council Community (LTCCP) Plan and the future direction of building activity. This consideration could assist to minimize damage to buildings and associated risk to the occupants by recognizing key indicators such as a buildings location and design.

Using the Modified Mercalli (MM) Scale, demonstrated in the Woodward – Clyde report, and the likely earthquake event intensity expectation of the New Zealand Society of Earthquake Engineers any development in the region should be influenced and designed accordingly.

This policy does not enter into tsunami events being as a result of seismic activity.

Background

The previous Building Act 1991 specifically targeted "un-reinforced masonry" structures. This ring fenced seismic concerns to that type of building without addressing the wider issues of potentially unsafe structures, rather using other sections of the 1991 act such as "Dangerous or Insanitary Buildings" jointly with the enforcement sections to achieve safer buildings in our community. Whereas the Building Act 2004 is focused in purpose by section 3:

a. People who use buildings can do so safely and without endangering their health.

And connectively:

b. People who use a building can escape from the building if it is on fire

c. People who use a building can be assured of a safe environment.

More specifically section 4 of the Act sets out an extensive list of matters that Council must have regard for in the performance of its functions and discharge of its duties.

Pertinent provisions include:

a. the need to ensure that any harmful effect on human health resulting from the use of particular building methods or products or of a particular building design, or from building work, is prevented or minimized:

b. the importance of ensuring that each building is durable for its intended use: and others.

Previous efforts throughout New Zealand to strengthen earthquake prone buildings initiated strong debate in terms of social and economic effects within the community with an emphasis on long term safer buildings versus affordability. This is reflected and somewhat appeased in the duration for remediation works on buildings confirmed as being earthquake prone as demonstrated in the policy.

Earthquake-prone Dangerous and Insanitary Buildings Policy

1. Policy Approach

Conversions of existing buildings, lack of maintenance, lack of appropriate facilities, overcrowding and un-consented building works have the potential to create unsatisfactory health and safety environments within buildings.

The failure to obtain building consents or for the use of buildings without cognizance of building code practices can give rise to insanitary conditions, a risk of building component failure, total collapse or the compromise of fire safety requirements.

The development of the New Zealand building code and associated New Zealand / Australian standards set mandatory performance requirements that must be met by owners and licensed building practitioners.

The focus of this policy is to maintain procedures to ensure that existing buildings (prior to the application of this policy) are safe, healthy and fit for purpose. This can be achieved by adhering to acceptable standards whilst ensuring community acceptance in terms of costs are considered

1.1 Meaning of an Earthquake-prone Building

s. 122 of the Act:-

(1) A building is earthquake prone for the purposes of the Act if, having regard to its condition and to the ground on which it is built, and because of its construction, the building –

(2)

a. will have its ultimate capacity exceeded in a moderate earthquake (as defined in the regulations,); and
b. would be likely to collapse causing –
(iii) injury or death to persons in the building or to persons on any other property; or
(iv) damage to any other property

(3) Subsection (1) does not apply to a building that is used wholly or mainly for residential purposes unless the building –

a. comprises 2 or more stories: and
b. contains 3 or more household units

Moderate earthquake has the same meaning as section 7 in the Building Regulations 2005 where – "–moderate earthquake means, in relation to a building, an earthquake that would generate shaking at the site of the building that is of the same duration as, but that is one third as strong as the earthquake shaking (determined by normal measures of acceleration, velocity and displacement) that would be used to design a new building at that site."

1.2 Liquefaction

Much of Kaikoura has a foreshore with a pea shingle subsurface that may attract liquefaction status. Liquefaction occurs where the subsurface soils react to seismic movement by behaving in a similar manner to liquid in terms of its ability to support a building with subsequent structural damage or catastrophic collapse as a possibility. Liquefaction is normally a greater risk when shallow ground water is present and is in conjunction with the aforementioned pea shingle. Whilst there have been a number of reports relating to seismic activity in the district liquefaction has not been extensively investigated. The Institute of Geological and Nuclear Science in Wellington have no specific detail on this subject for Kaikoura. Similarly Environment Canterbury have little to offer on the subject within Kaikoura.

1.3 Earthquake Prone Buildings - Identification

Kaikoura has few buildings over two floors in height that do not have a proven record of service but that alone does not mean assessment is not necessary for even minor buildings.

The New Zealand Building Code clause B1 'Structure' demands a performance:

> *Buildings, building elements and site work shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.*

Clause B1 specifies a number of factors for consideration including earthquake, differential movement, earth pressure and adverse effects due to insufficient separation from other buildings.

There are numerous considerations and structural engineering principles to apply both in terms of seismic loadings and other natural hazards. It would be safe to say that the required expertise for an overall assessment of buildings could be sourced from consultants in conjunction with Councils in house engineers.

It would be prudent to note at this point that whilst NZS4203 is current (March 2006) at this date for the purposes of determining whether a building is earthquake prone or not the Department of Building and Housing is considering its replacement. The latter, possibly during 2006, standard AS/NZ 1170 part 5: 2004 calls for an increase in the threshold value.

The giving of information through land information memoranda and any requisition of Council should consider AS/NZ 1170 as "the means of assessment" to avoid any potential of upgrading recent required building works on an earthquake – prone structure being carried out under the outgoing lesser standard NZS4203.

The result of this of course may require a second upgrade for the structure to comply as NZS1170 is some 20% higher than its expected predecessor the current NZS4203.

1.4 Meaning of a Dangerous Building

The Building Act 2004 s. 121 defines a dangerous building as one which in the ordinary course of events (excluding earthquakes) is likely to cause -

(i) injury or death (whether by collapse or otherwise) to any persons in it or to persons on other property; or

(ii) damage to other property; or in the event of a fire, injury or death to any persons in the building or to persons on other property is likely because of fire hazard or the occupancy of the building.

For the purpose of determining whether a building is dangerous, a territorial authority may seek advice from members of the New Zealand Fire Service who have been notified to the territorial authority by the Fire Service National Commander as being competent to give advice: and if the advice is sought, must have due regard to the advice.

1.5 Meaning of an Insanitary Building

The Building Act 2004 s. 123 defines an insanitary building if a building –

Is offensive or likely to be injurious to health because –

(i) of how it is situated or constructed; or
(ii) is in a state of disrepair; or
(iii) has insufficient or defective provisions against moisture penetration causing dampness in the building or in any adjoining building; or
(iv) does not have a supply of potable water that is adequate for it's intended use; or
(v) does not have adequate sanitary facilities for its intended use; or
(vi) has been neglected by lack of maintenance to a state of dilapidation.

1.6 Dangerous and Insanitary Buildings - Identification

Council will identify dangerous or insanitary buildings by:

- Complaints from the public or users of a building
- Council staff monitoring

- Notification from other agencies such as New Zealand Fire Service personnel, Director general of Health and other agencies
- Carrying out a review of Council property files when buildings are suspect.

1.7 Short Term Notation

The Building Act 2004 and associated Building Regulations define the meaning of an "earthquake prone building". As a general guidance, an earthquake prone building will have a strength that is 33% or less of the current loadings code. The current loadings code is NZS4203:1992 "Code of Practice for General Structural Design Loadings for Buildings". That document is to be replaced by NZS1170.5:2004 "Structural design Actions". That latter standard has been published and is expected to be cited in the Compliance Documents for the New Zealand Building Code in 2006 but not before the mandatory adoption of this policy.

It should be noted that the test for whether a structure is earthquake prone or not is in terms of the *current loadings code* (presently NZS4203).

Once a building has been classified as earthquake prone it will need to be strengthened, or if appropriate demolished. There is no specific provision that Council can rely on to insist that a particular capacity be attained, the legislation has not addressed the upgrading process in a definitive way, rather that Council should encourage the owner to strengthen the structure to the greatest extent possible.

2. Timeframes for Remediation

Five and ten years seems to be a widely accepted remediation timeframe for buildings identified as insanitary and or dangerous buildings in terms of the Building Act 2004. Buildings assessed as having a more urgent remediation program because of pending structural failure during an earthquake event, or serious dangerous or insanitary conditions may need a stated lesser time span. In this case each subject building not attracting the five or ten year category should be taken on merit after consultation with the appropriately qualified engineer using the importance levels defined in clause 5.5 herein, the Director General of Health and where applicable New Zealand Historic Places Trust.

For the purposes of this policy each building deemed to be earthquake prone dangerous or insanitary by Council engineers shall be remedied by the application of section 12 "Priorities" of this policy or a shorter time span as qualified by Council engineers.

Council engineers shall consider;

- the condition of the subject building
- the use of the building
- occupant density
- location of the building
- heritage buildings / sites
- NZ Fire Service recommendations
- Risks to persons and property on the site and adjacent sites -

in addition to widely accepted engineering principles, the New Zealand building code and the New Zealand National Society for Earthquake Engineering,1985; *Recommendations and Guidelines for Classifying , Interim Securing and Strengthening*.

Any recommendation involving building work as defined in the Building Act 2004 will attract the need for a building consent in terms of section 40 of the Act notwithstanding emergency procedures to remove a hazardous situation. Emergency procedures will include consultation with not only the building owner but other stakeholders including but not limited to New Zealand Fire Service, New Zealand Historic Places Trust and Te Runanga o Kaikoura.

3. Heritage Buildings

Nothing in this policy will negate Councils recognition of the importance of the regions cultural, historical and heritage values and the need for specialist input to protect against invasive actions by any party who signals an interest in any building, structure or site.

Kaikoura District Council is committed to offering heritage buildings within its boundaries a good chance of surviving a major earthquake. However Council does not wish to see the intrinsic heritage values of these buildings adversely affected by structural improvement measures.

Heritage buildings will be assessed in the same way as other potentially earthquake prone buildings and discussions held with owners and the Historic Places trust to identify a way forward. Focused efforts will be made to meet heritage objectives.

Following this consultation period, notices will be served requiring improvements or demolition within a stated (preferably agreed) timeframe. In some cases Council may deem it necessary to consult with the general public.

4. Overall Approach

Kaikoura District Council will:

4.1 review its whole building stock to identify buildings that fall within the scope of potential earthquake prone, dangerous or insanitary buildings as defined within the Building Act 2004

4.2 assess broadly the performance of those buildings in relation to the new building standard. Having regard to the standard defined for earthquake prone buildings and the New Zealand Building Code. Council may consult with the New Zealand Fire Service, Te Runanga o Kaikoura and Historic Places Trust. This broad assessment will be carried out at Councils cost.

4.3 determine from this assessment a list of buildings that are dangerous, insanitary or earthquake- prone in terms of the Building Act 2004.

4.4 advise owners of the affected buildings of Councils findings and invite them, within a stated timeframe, to meet with and or obtain further detail from Council on future requirements. From this juncture the subject buildings owners will be charged for Council input.

4.5 serve notice to all owners of identified buildings once the stated timeframe for meeting with Council has passed and, subject to the results of discussions, to carry out work to reduce or remove the danger or demolish the building within a specified timeframe.

4.6 allow owners a right of appeal as defined by the Building Act 2004 which can include an application for a determination in terms of section 177 of the Act.

5. Identification of Earthquake - prone Dangerous or Insanitary Buildings

Kaikoura District Council will undertake an initial desktop review of Council files in an effort to locate subject buildings and;

5.1 follow up with a site inspection where deemed necessary

5.2 carry out initial evaluation of performance in an earthquake based on information obtained by using the NZSEE Initial Evaluation Method for EQP sites. Dangerous and insanitary buildings evaluations will be on merit as described herein.

5.3 require identified EQP, dangerous and insanitary building owners to carry out detailed assessments on their buildings unless otherwise agreed

5.4 maintain a list of subject buildings according to the results of assessment

5.5 categorize the EQP buildings according to the following:

5.5.1. Buildings with special post disaster functions as defined in AS/NZ 1170.0:2002. Importance Level 4.

5.5.2. Buildings that contain people in crowds or contents of high value to the community as defined in AS/NZ1170.0 : 2002, Importance level 3.

5.5.3 Buildings with a heritage classification of A or B under Councils register.

5.5.4 Buildings with an Importance Level less than 3 as defined in AS/NZ 1170.0: 2002

6. Assessment Criteria – Earthquake – prone Buildings

For practical purposes, Kaikoura District Council will define EPB's as those that, when subjected to a moderate earthquake, do not meet nor exceed the criteria for ultimate limit state as defined in the loadings and materials Standards for new buildings.

Council will use the NZSEE recommendations as its preferred basis for defining technical requirements and criteria. These recommendations are designed to be used in conjunction with AS/NZ1170 Loadings Standard, NZS 3404 Steel Structures Standard and other materials standards.

7. Taking Action on Earthquake –prone Buildings

Kaikoura District Council will:

7.1 advise and liaise with owners of buildings identified as being earthquake prone

7.2 encourage owners to carry out an independent assessment of the structural Performance of those buildings

7.3 serve formal notices on owners of earthquake prone buildings in accordance with the Building Act 2004 s.124 requiring them to remove the danger.

7.4 allow owners to appeal against the classification within 12 months of the receipt of notice

8. Interface between the Building Act 2004 and EPB

8.1 The Building Act 2004 section 112 Alterations to an Existing Building.

Whenever a building consent application is received for significant upgrading or alteration of a building that is or could be earthquake prone, then, irrespective of the general priorities set by Council for dealing with EQP buildings, Councils Building Consent Authority will not issue a building consent unless it is satisfied that the building is not earthquake prone and that the building work will not detrimentally affect the buildings compliance with the building code.

If the building is shown to be earthquake prone, then council will require that the building be strengthened to comply as nearly as is reasonably practicable with the provisions of the building code.

Similarly where the building has been identified as being dangerous or insanitary Councils Building Consent Authority will not issue a building consent unless it has been satisfied that the subject building will, after the proposed alterations meet all of the provisions of the NZ building code.

9. Building Act Section 115 : Change of Use

Whenever a building consent is received for a change of use of a building that is or could be earthquake prone, then, irrespective of the general priorities set by Council for dealing with EQP buildings, it will be a requirement of the building consent that the owner initiates a detailed assessment of the earthquake performance of the building to determine whether or not it is an EQP building in its existing condition.

If the building is shown to be earthquake prone then the Council will require that the building be strengthened to comply as nearly as is practicable with every provision of the building code that relates to structural performance as is required by the Building Act 2004 section 115(b) (i) (A) (In this instance the requirement for EQP buildings would be the same as that for non-earthquake buildings.)

Identified dangerous and insanitary buildings that are to be upgraded or subjected to an alteration proposal will be managed in similar fashion. No consent will be issued by Council's Building Consent Authority unless the proposal will meet all of the required sections of the building code. This may require consideration of the New Zealand fire Service who may be approached in a consultative capacity by the Council or its Building Consent Authority.

10. Dealing With Building Owners

10.1 Before exercising its powers under the Building Act 2004 section 124, Council will seek, within a defined time-frame, to discuss options for action with owners with a view to obtaining from the owner a mutually acceptable approach for dealing with the danger, leading to receipt of a formal proposal from owners for strengthening or demolition.

10.2 In the event that discussions do not yield a mutually acceptable solution Council will serve a formal notice on the owner to strengthen or demolish the building.

11. Recording a Buildings EQP Status

A register of all EQP dangerous and/or insanitary buildings shall be kept by Council noting the status, any requirements for improvements or the results of improvements as applicable.

In addition, the following information will be placed on any Land Information Memoranda produced by Council under the Building Act 2004:

i. an address and legal description of land and building

ii. a statement that the building is on the council register of EQP, dangerous or insanitary buildings

iii. the date by which strengthening, remediation or demolition is required if known

iv. a statement that further details are available from the Council for those who can demonstrate a genuine interest in the property.

In granting access to information concerning earthquake-prone and insanitary buildings the Council will conform to the requirements of relevant restrictive legislation.

12. Priorities

Kaikoura District Council has prioritized both the identification and the requirement to strengthen or demolish buildings as follows.

Figures in brackets indicate the latest date for identification and notification and the maximum times for strengthening or demolition respectively. Times required for strengthening or demolition commence on the date of issue of formal notice. Specific times will be assigned for action according to the assessment of structural performance and the nature of the concerns.

The order will be as follows:

12.1 Buildings with special post-disaster functions as defined in AS/NZ 1170.0: 2002, Importance Level 4
(December 2008) **15 years**

12.2 Buildings that contain people in crowds or contents of high value to the community as defined in AS/NZS 1170.0: 2002, Importance Level 3
(December 2009) **20 years**

12.3 Buildings with a heritage classification of A or B under the Councils register
(December 2010) **25 years**

12.4 Buildings with an Importance Level of less than 3 as defined in AS/NZ 1170.0: 2002
(December 2011) **30 years**

13. Heritage Buildings

Heritage buildings will be assessed and categorized as with other buildings in terms of EQP, dangerous or insanitary building procedures however Council and the owners or owner's agents must have regard to the heritage status of a subject building.

The Building Act 2004 section 4 (2) (1) recognizes the – " need to facilitate the preservation of buildings of significant cultural, historical or heritage value"

Kaikoura District Council is mindful that any building work or ground disturbance must recognize the heritage fabric of the site and minimize any intrusion thereon.

Council accepts that should any heritage building (as defined by both the Kaikoura District Plan and the NZ Historical Places Trust) requiring strengthening, alteration or demolition following the assessment processes of this policy, all stake holders will be invited to take part in the consultation process. In normal circumstances resource consent from Kaikoura District Council would be required to significantly alter, strengthen or demolish a heritage building. An archaeological authority may also be required from Environment Canterbury and New Zealand Historic Places Trust in the event of earthworks associated with a pending demolition of an EQP building

Consultation where an heritage building is deemed to be earthquake prone dangerous or insanitary may include representatives from but not limited to:

- New Zealand Historical Places Trust
- Te Runanga o Kaikoura
- The building owners
- Kaikoura District Council
- New Zealand Fire Service
- Department of Conservation
- Interested community groups

Consideration to waiving resource consent fees for heritage building enhancement may be available through the Kaikoura District Council by application.

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