



12 October 2011

Royal Commission
PO Box 14053
Christchurch Airport
Christchurch 8544
New Zealand

Dear Commissioners

Auckland Council Canterbury Earthquakes Royal Commission submission

This is a submission to the Royal Commission on the Canterbury Earthquakes, Issue 3-Inquiry into Legal and Best Practice Requirements and Issue 6-Future Measures.

The Auckland Council does not wish to be heard in support of this submission. If others make a similar submission, Auckland Council will consider presenting a joint case with them at a hearing.

This submission was prepared by officers of Auckland Council and will be retrospectively reported to the Regional Development & Operations Committee.

Yours sincerely

Patricia Reade
Chief Operating Officer
Auckland Council

(Report prepared by Bob DeLeur, Manager Policy & Resolutions and Marion Irwin, Hazards Manager)

Executive Summary

Auckland Council supports an amendment to the Building Act s122 to change the current definition of what is considered an earthquake prone building. Any changes in this regard should also be supported by further research to identify any necessary changes to the currently identified low seismic risk of the Auckland region.

Auckland Council seeks guidance in how best to address any safety issues around chimneys in residential buildings and parapets and verandas on existing commercial building stock.

Auckland Council also seeks revision of guidelines on rapid assessment of buildings to fully integrate geotechnical issues and experience from their implementation in Christchurch. This includes development of nationally standard procedures, placards, data collection sheets and preparatory training for personnel during business as usual.

Full Submission

1. General

- Auckland Council wishes to make a submission relating to section b of Issue 3 - Inquiry into best Practice requirements the Royal Commission: *"The legal requirements for buildings that are "earthquake prone" under section 122 of the Building Act 2004 and associated regulations,"* also to sections c and d of Issue 3 *"c. The requirements for existing buildings that are not "earthquake prone" and do not meet current legal and best-practice requirements for the design, construction and maintenance of new buildings, including whether, to what extent, and over what period, they should be required to meet those requirements d. The roles of central government, local government, the building and construction industry, and other elements of the private sector in developing and enforcing legal and best-practice requirements"*.
- This part of the submission also relates to Issue 6-*"Future measures: Existing Buildings a. New and recent methods of retrofitting b. The appropriate level of compliance with new building standards or alternative performance criteria, taking into account the cost of compliance"*
- In addition the submission relates to Issue 3 section e.: *"The legal and best-practice requirements for the assessment of, and for remedial work carried out on, buildings after any earthquake, having regard to the lessons from the Canterbury earthquakes"*

2. Content

Concerning issue 3b, Auckland Council notes the statistics quoted within the technical reports that a building retrofitted to 33% of current code is 10-25 times more likely to collapse, and one retrofitted to 67% 2-5 times more likely to collapse than a building built to current code. Based on Auckland current seismic analyses by GNS the risk in the Auckland region is considered to be low. Any increase in seismic requirements for upgrading existing buildings should also be guided by the outcomes of further research. Council would favour any changes to the current definition of an earthquake prone building as defined under section 122 of the Building Act/Code clarifying the ability of a Territorial Authority to demand a higher level of retrofit strengthening, such as to 67% or more of current code as is recommended by the NZSEE.

Auckland Council believes that it is appropriate to have regional flexibility to account for local conditions but sees that this is addressed if the seismic zones remain (as long as they are adequately defined). Council believes that ongoing implications of such a policy change may be easier to address if the Building Act/Code explicitly defines the required retrofit percentage of present code rather than leaving it to local policy to justify.

Concerning Issue 3c, Auckland Council is aware that in any significant earthquake, many chimneys are damaged, and many collapse, causing a significant threat of injury and loss of life as well as damage to neighbouring properties. The Canterbury earthquakes were a good example of this.

Since many chimneys belong to single storey residential properties, they fall outside the legislation in the Building Act, relating to earthquake prone buildings.

Auckland Council would like to see:

- Central government commission a research programme to investigate simple and inexpensive ways of strengthening chimneys, including:
 - (i) in depth analysis of effectiveness of the methods;
 - (ii) in depth cost benefit analysis of various methods;
 - (iii) research into ways of effectively generating uptake by property owners of the strengthening work or removal of chimneys, given that it is not a legal requirement.
- Central government encourage the removal of unnecessary chimneys, perhaps alongside the campaign for installation of heat pumps, roof insulation and cleaner methods of home heating. Financial incentives could be offered to homeowners to remove chimneys where they are now superfluous and their removal does not significantly impact on heritage preservation plans.

In regard to Issues 3c and d, Auckland Council is also aware of the danger of parapets, heavy ornamentation and verandas on some older buildings and likewise seeks cost effective methods of retrofitting these features, or removal where necessary. Council also sees the need for a stringent programme of inspection and maintenance of verandas, and seeks research into cost effective methods of non-invasive evaluation of fittings that lie behind facades, to ensure that strength is not lost with corrosion. Such corrosion has been seen to lead to failure, even without a significant earthquake. Council therefore sees the need for inspection and maintenance programmes to be implemented throughout the nation to ensure optimum performance of these structures during any seismic event.

3. Content

In regard to Issue 3e, Auckland Council supports a national standard for Building Safety Evaluation, including standard placarding procedures, standard data collection sheets and standard training of building inspectors.

Council supports the guidelines already being developed but would like to see Geotechnical and Insanitary Safety Evaluation addressed and fully integrated within the standard. We are particularly aware of the lack of integration of the geotechnical assessment with structural engineering assessment information after the February 22nd quake caused significant complications in data collection and placarding. This was especially true in the Port Hills, area where rock fall, and potential rock fall, was a major issue. The lack of integration caused much confusion, and loss of data, and resulted in the need for revisiting of placarded properties to recollect data.

Council would therefore like to see standard Geotechnical data collection sheets developed alongside those for Structural engineering assessment of buildings, placards that are designed that incorporate an indicator of geotechnical and insanitary issues as well as structural issues and standard training, during business as usual, of Geotechnical consultants who may be called on during a large-scale emergency. We suggest that personnel who were involved in geotechnical assessment in the aftermath of the February 22nd quake be consulted in the development of such a standard.

It is important that national standards are set and that these align with international best practice, so that persons deployed from overseas are also familiar with procedures. Auckland Council would prefer official standards to be in place, rather than guidelines.

4. Conclusion

Auckland Council support a change to the definition of earthquake prone buildings and/or ability for Territorial Authorities to set minimum strengthening standards, supported by further research into regions such as Auckland currently classified as low seismic risk where only minimal research has been done.

Auckland Council seeks guidance in how best to address safety issues around chimneys in residential buildings, existing parapets and verandas.

Auckland Council also seeks revision of guidelines on rapid assessment of buildings to fully integrate geotechnical and insanitary issues. This includes development of standard procedures, placards, data collection sheets and training for personnel in business as usual.

Address for service:	Auckland Council Private Bag 92300 Auckland 1142
Telephone:	(09) 301 7393 or (021) 226 5024
Email:	marion.irwin@aucklandcouncil.govt.nz
Contact person:	Marion Irwin, Hazards Manager, CDEM
Alternate Contact:	Patrick Cummuskey, Special Projects Officer patrick.cummuskey@aucklandcouncil.govt.nz