

Memo

12 May 2017

To: Mayor, Councillors and Local Board Chairs
cc: Penny Pirrit, Director Regulatory Services, Ian McCormick, General Manager Building control
From: Mike Smith, Manager Quality Assurance and Projects, Building Control

Subject: Building (Earthquake-prone Buildings) Amendment Act 2016

Purpose

The earthquake-prone buildings provisions of the Building Act 2004 have been amended by the Building (Earthquake-prone Buildings) Amendment Act 2016.

The provisions of the Amendment Act do not take effect until the underpinning Regulation and Methodology are approved. The commencement date is expected to be 1 July 2017.

This memo outlines the changes to the management of earthquake prone buildings in Auckland and the proposed implementation approach.

Background

Prior to the Building (Earthquake-prone Buildings) Amendment Act 2016, the Building Act 2004 required Territorial Authorities to adopt a policy on dangerous, earthquake-prone, and insanitary buildings.

With each Territorial Authority developing their own policy on the identification, assessment, and management of earthquake-prone buildings this led to a wide variation in approach from the very pro-active to the very reactive.

One of the recommendations from the Royal Commission investigating the Christchurch earthquakes was for a more consistent approach to dealing with earthquake-prone buildings.

On the commencement date, the Building (Earthquake-prone Buildings) Amendment Act 2016 introduces a national framework for the management of earthquake-prone buildings and supersedes all Territorial Authority policies on earthquake-prone buildings.

The commencement date for the Act is subject to the underpinning Regulations and Assessment Methodology being approved by Cabinet and the Chief Executive of the Ministry of Business Innovation and Employment (MBIE) respectively. These are in their final drafting stages with an anticipated commencement date of 1 July 2017.

Auckland Council provided two written submissions (April 2014 and July 2015) on the Building (Earthquake-prone Buildings) Amendment Bill 2013 and appeared before the Select committee during the consultation process.

Auckland Council officers have been part of a Local Government New Zealand technical working party providing advice to MBIE on the development of the Act, Regulations and Assessment Methodology.

Summary of the Act

The new legislation aims to target areas (and buildings) that pose the highest risk to life safety in the event of a moderate earthquake.

The key elements of the new methodology are:

- National rules and methodology supersede all Territorial Authorities earthquake-prone building policies.
- Certain structures are excluded from the earthquake-prone building provisions, for example ancillary farm buildings (sheds), wharfs, bridges. The provisions apply to:
 - commercial buildings, and
 - residential buildings comprising 2 or more stories **and** 3 or more household units (or is a hostel, boarding house, or other specialised accommodation)
- Divides New Zealand into zones of high, medium, and low seismic risk – Auckland is a low seismic risk zone.
- Stepped approach to the identification, assessment and management of earthquake-prone buildings depending on the seismic risk zone.
- Introduces the concept that part of a building may be earthquake-prone without the whole building being earthquake-prone.
- In zones of medium and high seismic risk, introduces the concept of ‘priority buildings’ and ‘strategic routes’. There is a requirement on Territorial Authorities in these risk zones to undertake consultation with their community through a special consultative procedure to determine these. Priority buildings have shorter timeframes for seismic strengthening. These provisions do not apply to Auckland (a low seismic risk zone).
- Territorial Authorities are required to identify potential earthquake-prone buildings based on building ‘profile’ categories within a specified timeframe (15 years in low seismic zones) and advise owners their buildings may be earthquake-prone. The building profiles in low seismic zones are:
 - Unreinforced Masonry (URM) buildings
 - Pre-1976 buildings, three or more stories or 12 metres or greater in height other than URM buildings (excluding timber frames buildings)
- Owners are then required to engage an engineer to carry out seismic assessments in accordance with new prescribed methodology (and at their cost)
- Territorial Authorities have the discretion to identify buildings outside these profile categories at any time.
- Owners submit their seismic assessment reports to the Territorial Authority who determines whether building is earthquake-prone or not.
- If deemed earthquake-prone:
 - The Territorial Authority issues an earthquake-prone notice to the owner(s) – a new statutory notice
 - The owner(s) has to display the notice in prominent place in the building (similar to a food grading notice)
 - The Territorial Authority adds the details of the earthquake-prone building to a new national register of earthquake-prone buildings to be held on MBIE website.
- The timeframe for strengthening earthquake-prone buildings in low seismic zones is 35 years from the date the earthquake-prone building notice is issued.
- Timeframe extensions of 10 years for heritage buildings and exemptions from strengthening are also possible with guidance criteria to be proved by MBIE.
- There are additional triggers requiring strengthening earlier than the 35 year timeframe – when the building is subject to a change of use or a substantial alteration (where the value of alterations is >25% of the rate-able value of the building).

Current state of seismic assessment programme in Auckland

Auckland Council's Earthquake-Prone, Dangerous and Insanitary Buildings Policy sets out a proactive programme of seismic assessments by Council engaged engineers for potentially earthquake-prone buildings.

The buildings which fall within the assessment scope are all pre-1976 commercial and large residential (2 or more stories and 3 or more household units) buildings. The building code standards introduced in 1976 mean that buildings designed and built to those standards are unlikely to be earthquake-prone.

The assessment programme was prioritised by building importance level –

- IL4: buildings with a post-disaster function,
- IL3: buildings with people in crowds or contents of high community value, heritage buildings or other significant structures,
- IL2: other buildings and structures

When a building was determined to be earthquake-prone, the owners were advised by letter of the need to strengthen the building.

The strengthening timeframes given were 10 years for IL4 & IL3 buildings (30 years for heritage buildings), and 20 years for IL2 buildings.

To date 7945 seismic assessments have been undertaken or received from owners. From these assessments 1807 buildings have been determined to be earthquake-prone.

MBIE implementation plan

The Ministry are developing a support programme for the introduction of the new system. This includes:

- A series of briefings in May for councils on the considerations needed (resourcing, logistics etc.) in preparation for the Act coming into effect on 1 July 2017
- A series of briefings in June and July for councils, engineers and building owners on the implementation of the new system and how it is intended to work. These briefings will be prioritised with councils in medium and high seismic risk zones being held first. It is likely that the Auckland briefings will be in mid-to-late July.
- Providing extensive guidance material on the interpretation and application of the Act, Regulations and Methodology.

We are liaising with MBIE to understand what public information they will be providing on the new legislation and what additional information we will need to provide on Auckland Council's website.

Transition process for Auckland

A key consideration for the implementation of the new system and methodology is to not re-litigate assessments already completed and impose unnecessary cost on building owners.

The proposed approach for the transition between systems is:

For buildings already assessed as '**not** earthquake-prone':

- No action. The Regulations exclude these buildings from being re-assessed under new methodology

For buildings already assessed as 'earthquake-prone':

- Write to building owners advising of change in legislation and giving them the options to:
 - Stick with existing earthquake-prone seismic assessment, or
 - Commission an engineer (at their cost) to undertake a new assessment under the new methodology within 12 months.
- If they elect to stick with the existing earthquake-prone rating Council will:
 - issue an Earthquake-prone Building Notice which is required to be displayed in a prominent place in the building, and
 - Add the building details to the national register of earthquake-prone buildings

Auckland council's seismic assessments were completed using an Initial Evaluation of Seismic Performance (IEP) methodology which provides a conservative assessment of seismic performance. It is likely that some (5%-10%) of buildings assessed as being earthquake-prone may be reassessed under the new, more detailed, methodology as being not earthquake-prone. The cost to owners of an assessment under the new methodology will depend on the size, age, and construction methodology of the buildings but is likely to be in the \$5,000-\$20,000 range.

To date Auckland has approximately 1800 buildings identified as being earthquake-prone. Once the new legislation comes into effect on 1 July, we will write to the owners of these buildings advising them of the new requirements.

Given the number of buildings involved we propose a phased approach to enable us to effectively manage the resulting queries and issues. It is expected to take 9-12 months to issue letters to all owners.

Once the earthquake-prone status of a building has been confirmed, an earthquake-prone building notice will be issued. It is the issuance of the notice that triggers the requirement for the building's details to be added to the national earthquake-prone building register. It is likely to be the third quarter of 2017 before we start issuing the statutory earthquake-prone building notices.

Potential challenges

Once the new legislation comes into effect and we start communicating the new requirements to owners of earthquake-prone buildings, we anticipate this will generate some challenges. These include:

- Building owners who advise they had not received prior notification that their building is earthquake-prone. The seismic assessment programmes pre-date the creation of Auckland Council. The legacy Councils took different approaches to assessments and notifications and it may be that some owners did not receive the initial notification.
- Building owners who bought earthquake prone buildings without realising the building is earthquake-prone or the implication of this.
- Building owners with individual titles within one building structure (generally apartment or businesses). Each owner will receive their own Earthquake-prone Building Notice but individually will have little way of addressing the seismic issues of the building. MBIE will be providing guidance on this topic, but are unlikely to be able to cover all scenarios.
- Building owners who refuse to display the Earthquake-prone Building Notices in a prominent place on their building (as required by the legislation). There are infringement provisions in the Act for refusing to display the notices, however we would not anticipate utilising these provisions initially but will work with those owners to achieve the desired outcome.

If you have any questions relating to the new legislation or the proposed implementation approach, please contact Mike Smith in the Building Control department on 027 229 8408 or at michael.smith@aucklandcouncil.govt.nz

Mike Smith

Supporting information

What is an earthquake-prone building?

A building is deemed earthquake-prone if its seismic strength is assessed as being less than 34% of the design standard for new building (%NBS) in the same location.

The assessments take into account a number of factors including age and construction methodology, seismic risk levels, ground conditions, and the building's importance level. For example:

- A building with a seismic rating of 34%NBS in Auckland (low seismic risk) would score much lower if the same building was in Wellington (high seismic risk),
- A building used for a post-disaster function (high importance level) with a seismic rating of 60%NBS would have a higher score if it were used as a retail store (lower importance level).

An earthquake-prone building is not a dangerous building purely because it is deemed earthquake-prone.

Legislative definitions:

Earthquake-prone building:

(1) A building or a part of a building is **earthquake prone** if, having regard to the condition of the building or part and to the ground on which the building is built, and because of the construction of the building or part,—

(a) the building or part will have its ultimate capacity exceeded in a moderate earthquake; and

(b) if the building or part were to collapse, the collapse would be likely to cause—

(i) injury or death to persons in or near the building or on any other property; or

(ii) damage to any other property.

(2) Whether a building or a part of a building is earthquake prone is determined by the territorial authority in whose district the building is situated: see section 133AJ.

(3) For the purpose of subsection (1)(a), **ultimate capacity** and **moderate earthquake** have the meanings given to them by regulations.

Moderate Earthquake:

For the purposes of section 133AB of the Act (meaning of earthquake-prone building), 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 if it were designed on the commencement date.

New Zealand seismic risk zones

