EARTHQUAKE COMMISSION
Kōmihana Rūwhenua

16 November 2021

To: Environment Select Committee

By email: en@parliament.govt.nz

Submission on Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill

The Earthquake Commission (EQC) is a Crown Entity responsible for providing insurance to residential property owners against the impact of natural hazards[1]. We also invest in and facilitate research and education about natural hazards, and methods of reducing or preventing natural hazard damage.

The contingent liability associated with natural hazard risk in New Zealand is high and is carried, in large part, by EQC on behalf of the Crown. EQC therefore has a strong interest in reducing risk from, and building resilience to, natural hazards in New Zealand.

New Zealand is highly exposed to natural hazard risks. This includes geological hazards such as earthquakes, landslides, volcanic activity and tsunami, as well as weather related hazards such as storms and floods. We have seen ample evidence of these risks recently, from the major flooding events across the South Island this winter, to research on the likelihood of a rupture of the Alpine Fault, which we are actively trying to prepare communities for.[2]

Our risk profile is also becoming more complex as the effects of climate change become apparent, and we will be exposed to more frequent and more severe weather events as a result. Managing the implications of climate change and natural hazard risk can, and should, be complementary – mitigating the impacts of one can improve outcomes for both.

For many New Zealanders, their homes are their largest financial asset. If they can no longer be insured due to natural hazard risk, or that insurance becomes unaffordable, then the consequences for people are potentially severe. Keeping natural disaster insurance accessible and affordable to all New Zealanders is one of the key drivers of the EQC scheme. This is why we also invest in research and resilience, and why it's so important to ensure resilience up front in how New Zealand plans for, and builds, housing and supporting infrastructure.

[1] The EQC scheme insures against damage to residential buildings and land resulting from earthquakes, landslips, volcanic eruptions, hydrothermal activity, tsunamis, or natural disaster fire; and damage to residential land caused by storm or flood.
[2] See https://af8.org.nz/

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Our submission

We are aware of the multiple pressures and competing outcomes facing the housing and urban development system and the need to balance these. However, development opportunities also need to take into account disaster and climate resilience, so that our communities can avoid as much as possible the loss and disruption that occurs from natural hazard events.

While we understand the intent of the Bill, our interest is in making sure that natural hazard risks get sufficiently considered so that legacy issues are avoided in the future. As proposed, there is a risk the Bill will lead to development that does not appropriately consider natural hazard events, as:

1. It is unclear what is the scope of a 'qualifying matter' (significance, national importance etc);
2. Currently there is a lack of higher-level direction about natural hazard risks. We understand this gap will be addressed through the proposed National Planning Framework and Strategic Planning Act, but until they are both implemented, there is a gap which could lead to inappropriate development.
3. There is a general lack of capacity, capability and information for local authorities, which may lead to poor decision-making around natural hazard risks.

We suggest that:

a) Greater clarity is provided on qualifying matters, and the interpretation of qualifying matters;
b) Natural hazard guidance and national direction is prioritised; and
c) Support is provided for local authorities to gather information and undertake risk assessments.

Further details are provided below.

Intent of Bill

The Bill introduces medium density residential standards (MDRS) in all Tier 1 urban environments, and Tier 2 urban environments in certain circumstances. The MDRS will enable medium density housing to be built as of right (at least 3 dwellings of up to 3 storeys per site) across more of Aotearoa New Zealand's urban environments.

EQC understands why these amendments are needed, but with this development becoming a permitted activity, natural hazards which may affect the site, both now and in the future, will not be considered unless the qualifying matters apply.

National Policy Statements

National Policy Statements are included as an example of needing to give effect to, however there is no NPS specific for natural hazards. While the New Zealand Coastal Policy Statement (NZCPS) includes coastal hazards (with guidance[3]), this is limited to coastal locations only, not inland. The NPS-UD does

[3] Department of Conservation, 2017: NZCPS 2010 guidance note: Coastal Hazards – Objective 5 and Policies 24, 25, 26 & 27. Department of Conservation, Wellington, 102p, https://www.doc.govt.nz/Documents/conservation/marine-and-coastal/coastal-management/guidance/policy-24-to-27.pdf

not explicitly include natural hazards. There is no national policy statement or national guidance for 'inland' natural hazards, which is a significant policy gap (albeit temporary until the National Planning Framework and Strategic Planning Act are implemented).

Qualifying Matters and Section 6(h) of the RMA

While natural hazards and their risks are not specifically included in the Bill, they are implicitly included through being a 'qualifying matter' via the NPS-UD (e.g. Section 77G *Qualifying matters in applying medium density residential standards to relevant residential zones;* Section 77L(a) *Qualifying matters in application of other intensification policies to urban non-residential areas*).

Qualifying matters for applying the MDRS are the same as those defined in clause 3.32 for the NPS-UD. This includes 3.32(1)(a) *a matter of national importance that decision-makers are required to recognise and provide for under section 6 of the Act.* Section 6(h) (matters of national importance) of the RMA is 'the management of significant risks from natural hazards'. There are a number of outstanding questions yet to be answered by the Courts or through any national guidance on Section 6(h). These include:

- Does the natural hazard risk need to be of national importance AND nationally significant?
- Or does any significant risk become a matter of national importance?
- What is the *threshold* for 'significant'? i.e. how significant does a risk need to be to become of national importance?
- And/or, at what *scale* does a risk need to be, to be of national importance – regional/district/community level?
- How is this significance or importance 'proven'?

It is EQC's opinion that the reliance on s6(h) as a qualifying matter will not be able to sufficiently manage all natural hazard risks. If the current reliance on Section 6(h) continues, more clarity on the questions above is needed, to ensure natural hazards are adequately managed, both now and in the future. By only planning for significant risk, opportunities have been lost to reduce and manage the risk to tolerable levels or lower, earlier. We don't want further development in areas already prone to hazards e.g. flooding, landslides (i.e. debris flows).

It is noted that the effects of climate change are included under s7(i) Other Matters of the RMA, and does not meet the criteria of a qualifying matter. This is a gap which needs to be addressed. In relation to natural hazards and climate change, we note that the Select Committee report on the Natural and Built Environment Act replaced the original wording

(i) the significant risks of both are reduced; and

(ii) the resilience of the environment to natural hazards and the effects of climate change is improved.

With: (*iii) reduced risks arising from, and better resilience of the environment to, natural hazards and the effects of climate change.*

In our opinion this provides a much better approach to managing all risks, not just those that are considered 'significant'. As section 6(h) of the RMA only relates to significant risk, **we propose that an addition point is included in section 77G, *Risks arising from natural hazards and the effects of***

climate change. This would be consistent with the NBA, and similar to how heritage is included in both s6(f) of the RMA, and section 77G(e) of this Bill (i.e. heritage orders).

Appendix 1 provides an example of a significant risk not being adequately planned for, from the draft Napier District Plan. We hope the Napier District Plan does progress to a risk-based approach as the plan develops further.

Spatial layers within district plans

77H(2)(d)(ii) *Requirements in relation to evaluation report* provides a description of how modifications to the MDRS as applied to the relevant residential zones are limited to only those modifications necessary to accommodate qualifying matters; in particular, how they apply to any spatial layers relating to overlays, precincts, specific controls, and development areas, including— (A) any operative district plan spatial layers; and (B) any new spatial layers proposed for the district plan.

Spatial plans have a fundamental role in reducing natural hazard risks. Spatial plans provide a key method for identifying locations susceptible to natural hazards, and managing the risk through supporting risk-based policies, risk reduction measures, and allows for monitoring of hazard and risk over time. The reliance of this Bill on operative or proposal district plan spatial layers adds additional importance of good hazard information being included in these spatial layers, rather than sitting outside of the plan. Barriers to including hazard information as a spatial layer include development entities strongly submitting on district plans that hazard layer should be outside district plans; access to information so that layers can be included in district plans (discussed further below); and adequate policies/methods to reduce the risks in these areas.

'Extent necessary to accommodate'

Section 77F(4)(c) – *Medium density residential standards must be incorporated into plans* - may not make any requirement less permissive than those set out in Schedule 3A unless authorised to do so under section 77G and, if so, only to the extent necessary to accommodate the qualifying matter.

Caution should be given to the wording 'extent necessary to accommodate', as some mitigation options do not result in good outcomes for the people living in hazardous areas. For example, a substantial body of evidence has established that floods have direct health impacts such as the risk of death and injury, disease outbreaks, such as gastroenteritis, and water quality issues. Natural hazards are also a deeply traumatic experience for those affected. For example, multiple studies highlight higher occurrences of mental health issues (such as anxiety, depression and post-traumatic stress disorder) in populations that have experienced flooding. Research further documents some of the factors that exacerbate the mental health consequences of flood experience, such as the flood duration, the economic and social consequences of recovery, and the emotional labour involved[4]. Raising floor levels for flooding may reduce any material damage to a home, however the health impacts can outweigh this benefit, with avoidance as the best option.

[4] Walker-Springett, K., Butler, C., & W.N. Adger (2017): Wellbeing in the aftermath of floods. Health & Place, 43, 66-74. https://www.sciencedirect.com/science/article/pii/S1353829216304348

Care also needs to be taken when options are provided to manage the risks to the 'extent necessary to accommodate' a natural hazard. Taking another flooding example, it may be proposed to have a jet boat tied to the house to allow for evacuation when the flood does come[5,6]. This is not an appropriate mitigation measure, as life is still being put at risk, and damage to property may still result. Good planning is required to manage risks in floodplains, and in other locations subject to natural hazards.

Access to information

For a natural hazard to be a qualifying manner, an evidence basis is required to determine the significance of the natural hazard risk. Noting that all relevant territorial authorities must notify their intensification planning instruments no later than 20 August 2022, this does not provide a lot of time for councils to gather information if they do not currently hold it, or if it needs updating. This transitional period gives councils only nine months to assess the current information they may hold, determine what additional/new information is required, procure services, have any reports/risk assessments/maps reviewed, and incorporated into the decision making process. This time frame, and the lack of capacity at many natural hazard knowledge providers, could prohibit appropriate information and risk assessments being undertaken and applied by the August 2022 deadline. Without this information, it is likely that councils will not be able to fully understand and consider natural hazard risks, and inappropriate intensification of development will occur.

What EQC would like to see

1. An additional point included in section 77G, *Risks arising from natural hazards and the effects of climate change*;
2. Fast tracking of national guidance and spatial plans on managing natural hazard and climate change risks;
3. Greater clarity on the scope of the existing s6(h) and how it relates to section 77G of this Bill;
4. Avoidance of development where there is significant risk;
5. Support to improve council capability and resourcing for understanding and managing natural hazard risks, including exacerbation from climate change; and
6. An extension of the 20 August 2022 deadline where natural hazard risk information and/or risk assessments cannot be completed and included into the plan making process in time.

[5] Bhana, H. F. (2005). Assessment of Effects - Resource consent for subdivision of land, Hikuai Settlement Road, Pauanui. Auckland: Harry Bhana & Associates Ltd.
[6] https://www.odt.co.nz/lifestyle/home-garden/house-tenacity-built

How EQC can help

EQC is playing an increasingly active role in cross-government efforts to build New Zealand's resilience to natural disasters. In recent years we have invested time in better leveraging our research, transforming it into useful tools and products, and getting it into the hands of people who can make a difference.

We operate in a unique position between central and local government, financial institutions, science and research institutions, and communities – and we have the ability to move between them and make connections. We have a rich source of information and data on natural hazard risks, impacts and loss modelling that can inform housing and urban development decisions.

EQC are developing risk tolerance criteria to support the decision making of individuals at risk of natural hazard events in Aotearoa New Zealand. This will support a range of EQC's work programmes and strategic initiatives, including the development of a Risk and Resilience Portal. A key aspect of the Portal will be to encourage, and where possible, aid risk-informed decision-making. This means a broad variety of individuals will need to consider their risk tolerance – know their hazard and then provide them with the means of action they can take to avoid, control, transfer, or manage their risk(s). We would like this portal to become a key tool for managing natural hazard risks and decision making.

We would welcome the opportunity to use this expertise to help support the development of national guidance on natural hazards, and the implementation of the NPS-UD in relation to natural hazard management. Please don't hesitate to contact me if you would like to discuss this further, or any other points raised in this submission.

Yours sincerely,

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APPENDIX 1: Napier – an example of a qualifying matter?

In September 2021 EQC made a submission on the draft Napier District Plan. Napier is a Tier 2 urban environment under the NPS-UD, is susceptible to a variety of natural hazards, and has witnessed first-hand many extreme events (e.g. 1931 earthquake, 2020 storm damage).

Earthquake and tsunami risks need to be taken seriously and have a joint land use planning and emergency management response. According to 2018 statistics, population counts in tsunami evacuation zones show Napier has a total population of 49,111 in all its evacuation zones (i.e. red, orange, yellow). Of this population, approximately 22 are in the red zone, 11,431 are in the orange zone, and 37,658 are in the yellow zone. Research published in 2014 showed that 25-30% (i.e. 15,000-19,000) of Napier residents cannot get a safe location in time after a strong or long earthquake – a nationally significant population.

This is compounded by new research that shows that the probability of an earthquake of at least magnitude 8 on the southern end of the Hikurangi subduction zone in the next 50 years is about 26%. Liquefaction is likely to be a significant issue for Napier, with moderate to severe damage expected in many areas of the district[7]. Groundwater levels (which will be impacted by sea level rise) are a critical factor in determining liquefaction potential (along with a large earthquake and soil type). Figures 1 shows a liquefaction land vulnerability map, based low, medium and high vulnerability levels. It is anticipated that up to very high liquefaction related land damage could occur in the southern suburbs of Napier (e.g. Marewa, Maraenui, Jervoistown, Meeanee), and up to moderate liquefaction related land damage could occur in the northern suburbs of Napier (e.g. Bayview, Westshore, Tamatea and Onekawa) and the suburbs to the west of Napier.

Figure 1: Liquefaction land vulnerability map showing areas of high, medium and low vulnerability (GNS Science, 2007, p87).

[7] Rosser BJ, Dellow GD, compilers. 2017. Assessment of liquefaction risk in the Hawke's Bay Volume 1: The liquefaction hazard model. Lower Hutt (NZ): GNS Science. 108 p. (GNS Science consultancy report; 2015/186).

EQC's analysis of insurance claims from the Canterbury Earthquake Sequence shows that while liquefaction damage claims only amounted to around 15% of all claims (see Figure 2), they amounted to around 55% of the total losses: while fewer properties were affected by liquefaction (than ground shaking alone), they suffered significant damage where it was present. This suggests that the **biggest determinant of loss was therefore not so much *how* a structure was built, but *where* it was built**. Properties sited on land subject to the highest cumulative hazard (usually ground shaking plus liquefaction, or ground shaking plus topographic amplification in the case of the Port Hills) suffered the highest losses.

With the return period for a large earthquake from the subduction zone, and the population of people exposed to liquefaction and tsunami, **EQC considers this to be a significant risk under section 6(h) of the RMA** that should be managed through the District Plan, in addition to emergency management measures. However, **the draft district plan was looking to intensify development in these areas**. This consultation took place between August and September 2021, and we are yet to hear the outcome of our submission, or if the draft district plan has been changed to take a more risk-based approach. This example does highlight how, even with significant risk, some Councils are not appropriately taking natural hazard risks into account in their planning, which will put more people and property at risk from extreme events.