



CODE ADVISORY PANEL

MEETING REPORT FROM 19 NOVEMBER 2020

A meeting of Code Advisory Panel was held on 19 November 2020 in Wellington and was attended by the following representatives of MBIE and the CAP:

MBIE

- Mike Kerr, Chief Engineer (Chair)
- Dave Robson, Manager Building Performance and Engineering
- Devin Glennie, Code Advisory Panel Secretariat
- Jenni Tipler, Manager Engineering
- Richard London, Manager Building Performance
- Katie Symons, Principal Advisor Engineering
- Jonna Morris, Personal Assistant to Dave Robson
- Kiran Saligame, Senior Geotechnical Engineer (Observer)
- Christian Hoerning, Senior Advisor Building Science (Observer)

CAP members

- Bruce Curtain, NZIA
- Peter Laurenson, Auckland Council
- Ian McCauley, Tasman Council
- Mark Jones, BRANZ
- Ross Roberts, NZGS
- Michael James, SFPE
- Patrick Cummiskey, NZSEE
- Simon Davis, Fire and Emergency NZ
- Cory Long, BOINZ
- Tania Williams, Engineering NZ
- Paul Campbell, SESOC

Apologies

- Paul O'Brien, representing commercial construction
- Johnny Calley, representing residential construction

PRESENTATIONS FROM THIS MEETING

MBIE Business updates

Previous Code Advisory Panel topics

BSP General Manager update

Seismic risk work programme

Presented by

Dave Robson

John Sneyd

Jenni Tipler

Page

2

4

5

Panel Advice

Education and Training Strategy

H1 Energy Efficiency – Climate zones and HVAC

Tier Framework for Standards in the Building Code

Polly Martin-Case and
Kiran Saligame

Dave Robson

Katie Symons

6

8

9

Previous Code Advisory Panel topics

Overview

Dave Robson provided an update on topics previously presented to the Code Advisory Panel in past meetings.

November 2020 Building Code update

The [November 2020 Building Code update](#) was released on 5 November 2020 and has a one year transition period. For this update cycle, MBIE released an "[Outcome of Building Code 2020 Update Public Consultation](#)" which summarised the feedback received on proposals and the decisions after considering the feedback. MBIE listened where changes were necessary. In consideration of the feedback,

- One proposal was withdrawn
- Remaining proposals were published with minor or no alterations.

This year there was a lot of attention given to the proposals on the fire performance of cladding.

- The requirements for the highest risk buildings remain unchanged.
- MBIE are currently working to gather more evidence on buildings in the 10 m to 25 m high specifically in regard to buildings with timber framed external walls.

The next consultation is in April and the biggest changes will include revisions to H1 Energy Efficiency Acceptable Solutions and Verification Methods.

- MBIE are also continuing to raise awareness of the consultation including manufacturers who supply insulation and glazing.

Schedule 1 exemptions

- Work is underway to prepare guidance materials for the 30 m² structures. Essentially, this will include step-by-step instructions for a homeowner on how to comply.
- The Schedule 1 exemptions will be reviewed as part of a standard regulatory evaluation process.

Building for Climate Change

- Consultation on the frameworks is now closed and the BfCC team are in the process of analysing feedback.
- The next set of consultation for BfCC will include more details on the implementation of the frameworks.

Tiny homes

- MBIE are seeking an independent legal opinion on the definitions of buildings and vehicles under the law. This legal opinion will consider current case law.
- On the basis of this legal opinion, research and evidence, and district court decisions, MBIE will then consider developing materials to create and promote consistency of interpretation.

Regulation change

- MBIE are putting advice to the Minister of Building and Construction for support on a regulation change programme as part of the work programmed for Building for Climate Change and HD8. This includes advice on Code Clauses G5 Internal Environments, G6 Airborne and Impact Sound, and H1 Energy Efficiency.

Other topics

- Other past CAP topics have been used to inform internal policies and decision making. This includes:
 - Keeping pace with technology
 - Life span of the building
 - AS/NZS 1170
 - Standards
 - Building Categorisation
 - Moisture issues
 - Protection from Fire
 - Climate change

Advice

On these topics, the CAP provided the following advice:

- For the Schedule 1 exemptions, a one year evaluation period may be too long as there are already issues around the 30 m² exemption (association legislation such as the RMA). MBIE should return to the new

minister to have the 30 m² exemption revised.

- For Tiny homes, a possible avenue would be to look at whether the structure was a residence versus a vehicle. A building should afford the expected safety and amenity features if it is used for a residential purpose irrespective of whether it has wheels. Additionally, MBIE should consider all avenues to develop a consistent approach including an Acceptable Solution pathway that fits within the existing legislation. This may result in something similar as the [Backcountry Huts Acceptable Solutions BCH/AS1](#).

BSP General Manager update

Overview

John Sneyd, the new General Manager for the Building System Performance Branch, provided an overview of the current branch priorities as well as his work with the Building Advisory Panel.

BSP Branch Priorities

The key priorities for the BSP branch were outlined as:

1. Building relationships with the sector

- This includes through the BAP and CAP and other means.
- It is difficult to implement changes without the support of the building and construction sector and are trying to do a better job at engaging our stakeholders.

2. Legislative reform programme

- There is currently one bill in select committee which will potentially introduce measures to gain efficiencies in consent process for modern methods of construction.
- Occupational regulation
- Risk and Liabilities – BCAs carry a disproportionate level of liability. BSP are looking to land the policy work for this. If we want a different system, we need a very viable insurance product and NZ does not have this. If we drive quality at the start the process, risk and liabilities goes away.

3. Building Code programme – An ambitious programme with strategic outcomes.

4. Building for Climate Change – A huge challenge and leading a behavioural change in the sector.

5. Consenting model

- Looking at what can be done to improve the current consenting model.
- This needs an evidence basis and research around what the issues are in consenting. The evidence basis will give us an opportunity to say what the biggest bang for the buck changes.

Building Advisory Panel

John Sneyd presented his view of the Code Advisory Panel versus the Building Advisory Panel. The Building Code is just one lever to affect the building system. MBIE is the steward of the Building regulatory system and not just the regulator. We affect change through policy work, information and education, and other ways. The CAP inputs into the effectiveness of the technical health of the Building Code and assurance that the Building Code is strategically aligned. The Building Advisory Panel provides strategic advice around the whole system and the members have broader areas of interest. The key priorities for the BAP are:

- Doing a deep dive into risk and liabilities
- Extended sessions on climate change and how to drive behaviour change
- Sector trends – evidence and insights
- Building act – is the building act fit for purpose?
- What role should MBIE take in regulatory stewardship?

The areas of overlap with the CAP:

- The role of the Building Code in the overall stewardship
- Impact of the regulators in the system overall

Advice

During the presentation from John Sneyd, members of the CAP provided the following comments and advice:

- Other Acts have interactions with the Building Act and potential conflicts in their mandate. This includes the Fire and Emergency New Zealand Act and Resource Management Act.
- Every rock picked up by the CAP presents a system wide issue. There may be opportunities and merits in getting the BAP and CAP together for joint sessions.
- Procurement and tendering also drives problems. There is a role for MBIE to lead the government procurement rules.
- A risk based consenting model is endorsed by Auckland Council.

Seismic risk work programme

Overview

Jenni Tipler provided an update on the Seismic risk work programme being undertaken by the structural and geotechnical engineers at MBIE.

National Seismic Hazard Model

The National Seismic Hazard Model provides information on building stability (above and below ground). It also gives us an indication of rockfall hazards, sloping stability and liquefaction potential which all require information on the severity of the shaking during an earthquake. It is used by central, and local government agencies, insurance companies and other private businesses, land use planners, emergency response officials, the financial industry, and the general public.

The current hazard model in the design standards is 20 years old. MBIE are investing heavily in resources and time to revise the model. The work is being undertaken by GNS and supported by EQC. MBIE are also working across government to develop a sustainable funding source for the model.

The National Seismic Hazard Model will provide billions of data points which can then be translated, simplified and codified into simplified data/maps for use by design engineers through the Building Code. The hazard model results are expected to come out in mid to late 2022. There will be a period of uncertainty as users of the model will not know what to do with the billion of data points. The first opportunity to consult on changes to the Building Code Acceptable Solutions and Verifications to incorporate this information will be in 2023.

Work programme

The work programme has three pillars:

1. incorporate the outpoints of the seismic hazard model outputs
 2. Update design and analysis approaches –
 3. Integrate geotechnical requirements –
- At the moment, there is no deemed-to-comply way to assess geotechnical seismic loads. This is a huge part of the work programme. Some of this information currently sits in the NZ 1170.5 standard. Essentially The work programme includes a scope of work to update the standard but that is not the only part of the work programme.

Advice

After the presentation, the Code Advisory Panel provided the following advice:

- NZSEE provide a general level of support of the principles of the work being undertaken. The only area of concern was uncertainty regarding the current Wellington basin hazard information.
- Delegating responsibilities for guidance around hazards to the technical societies will be questioned by clients if it is not supported by MBIE.
- It is vital to produce a revision to the requirements in B1 once the new hazard model is released as any delay will create a vacuum.
- It is important to consider at what regulatory level (Building Act, Building Code or lower) the hazard model results are adopted noting that compliance with the Acceptable Solutions and Verification Methods or cited standards is not mandatory.

Education and Training Strategy

Overview

Polly Martin-Case provided an overview of the Education and Training Strategy used to support updates to the Building Code. During the previous CAP session, several pieces of work talked about the importance of Education and Training as part of the annual Building Code update. As an example of the work being done, Kiran Saligame discussed the education and training of change made for liquefaction prone ground.

Information and Education Team

The I&E team are trying to drive compliance through helpful information and user-friendly education, awareness and behaviour change campaigns. This is a relatively new team at MBIE with leadership and members brought on in the last year. They are changing the ways things have been done in the past and providing innovative strategies.

Strategic direction

The strategy for the team has four parts:

- User centric and leveraging industry partners
- Focus on visual and interactive content
- Efficiencies through digital development
- Consistency in the approach

Part of the stakeholder engagement strategy is to have John Sneyd host quarterly webinars with BCAs. MBIE are looking for other opportunities for content sharing and amplifying the message.

Schedule 1 exemptions education programme

MBIE are currently working on education and training of the new Schedule 1 exemptions. This includes:

- Informing and educating the sector
- Driving awareness and understanding with homeowners through digital tools (“Do I need consent?” in January) and guidance (How to comply).

Good ground project education programme

Acceptable Solution B1/AS1 was amended in Nov 2019 to facilitate design of house foundations to mitigate for liquefaction risk so they comply with the Building Code. This change was relatively easy to publish but has huge impact on the sector. After November 2021, every building application designed through B1/AS1 will need to consider the liquefaction potential.

Most councils around the country are under pressure to release land for housing development but they are not well equipped and informed about the risks posed by liquefaction. The change will:

- Impact every end user of B1/AS1
- Require mapping of regions for liquefaction risk

So far, the work undertaken to implement this change has identified:

- Lack of awareness about the change
- Lack of co-ordination between central and local Govt
- Lack of consistency in available information

Some of the activities to be undertaken in 2021 for the good ground project:

- 1. Communications** – Email to individual councils to be clear on where the performance settings lie
- 2. Webinars** – Starting in early 2021 for councils to help them complete their mapping and be prepared for consenting.
- 3. Workshops** – Regional councils and BCA cluster groups (this is already in progress and will continue next year)
- 4. Engagement with Society of Local Government Managers (SOLGM) & Local Govt NZ (LGNZ)** – To improve awareness and action for this change
- 5. Advertising** – Through LinkedIn and Google advertising to target other audiences
- 6. Stakeholder management** – Provide content to relevant stakeholder groups for distribution amongst their channels, i.e. NZGS, BOINZ, ENZ, NZIA etc

Education and Training Strategy Continued

Advice on the education strategy

The Code Advisory Panel provided the following advice:

- **Partnerships** – There are opportunities to partner with other organisations (such as BRANZ and Master Builders) to educate and communicate changes. Targeting builders is a key aspect for the implementation of changes.
- **Measuring effectiveness** – The information going out from MBIE may only be hitting the same people. There are opportunities to measure the effectiveness of how something has been received and is it getting through to the right people.
- **Consenting system** – It would be useful to introduce training around the consenting and how to navigate it.
- **Incentives** – There needs to be financial incentives for people to comply and potentially penalties when people are not learning or are repeat offenders. There will always be a bottom rung that requires the BCA to enforce the requirements.
- **Digital tools** – If a digital tool is printable, it may be used to show compliance or demonstrate compliance on that day. Digital tools that support the Schedule 1 exemption work need to include information around the RMA and other consenting requirements.
- **Organisations and individuals** – There is a different approach to be taken when MBIE are engaging with individuals versus organisations.
- **Schedule 1 exemptions** – There was confusion in the initial launch of this work as the media and homeowners were advised on the changes before the regulations were released and BCAs knew what the content of the exemptions would be.

Advice on the good ground project

- **Communications** – The Good ground change has a good level of communication to the NZGS. It might be that only some BCAs or some members of the BCAs do not know what is happening at this stage.
- **Buy-in from Councils** – Implementing this change may require MBIE to communicate with the Chief Executives at different councils. This will help to secure investment and resources as it will take buy-in to fund the hazard mapping. It was noted that, for some councils, the impacts of liquefactions are likely to be less significant because of their geology and this would affect their prioritisation and funding of the mapping work.
- **Incentives** – As the good ground change is only in B1/AS1 and not mandatory for all buildings (it is an AS and not the Code or Act level change), there is less financial incentive for a Council to comply and supply hazard mapping.
- **Other exemplar work** – Education of the Earthquake Prone Building work was identified by members of the CAP as an exemplar piece of work as it required a Building Act level change and was implemented with road shows and content.

H1 Energy Efficiency – Climate zones and HVAC

Overview

Dave Robson presented an update on the work for H1 Energy Efficiency including climate zone maps and an approach to develop a Verification Method for the energy efficiency of commercial HVAC systems.

Climate Zones

- Climate zones are used in H1 Energy Efficiency to determine specific values for insulating homes and buildings. The diversity of climate in New Zealand has considerable effect on the performance of buildings and the design of buildings needs to reflect this diversity.
- In the 23 September 2020 CAP meeting, there was discussion on the need to refine climate zones and further consider the Bay of Plenty and Tauranga. This is undergoing a separate peer review process.
- Based on the analysis of thermal insulation requirements, a single set of six climate zones provide the best overall outcomes. However, MBIE is proposing to consult on three sets of climate zone maps: status quo, 6 zones, and 18 zones (the 18 NIWA climate zones).

Energy efficiency of HVAC systems

HVAC systems are one of the biggest energy users in commercial buildings and present one of the biggest opportunities for commercial building energy savings, with associated operational cost and greenhouse gas emission benefits.

NZBC clause H1.3.6 specifies energy efficiency requirements for HVAC systems in commercial buildings. However, there is currently no Acceptable Solution or Verification Method to demonstrate compliance.

MBIE is proposing to introduce new a Verification Method for HVAC that will set a minimum performance baseline that can be adjusted in the future to meet Building for Climate Change targets.

The approach to developing this VM is to capture what is current good practice. The feedback we have received is that HVAC engineers know how to design well but are told not to if it is not in the requirements. It is anticipated that most New Zealand HVAC system designers will already be familiar with the principles and provisions of the VM.

Advice

After the presentation, the Code Advisory Panel provided the following advice:

Climate zones

- Members of the CAP questioned whether the number of climate zones needed to be consulted on as it was essentially a scientific decision. The more important question was what the outcome to owners with having the different zones (ie. Increased thermal insulation values).
- The maps also need to be accompanied with a list of the territorial authorities that each zone applies to.
- The driver for the updates should be having a comfortable home rather than whether there is current supply to meet this. The supply side can be addressed through transition periods.

HVAC

- The VM was endorsed as a good first step.
- The VM should consider interactions with other Code Clauses such as G4 and E3.
- BCAs are currently not putting a lot of effort into monitoring compliance with H1. However, if the VM sets a minimum level of performance, it can then be more easily checked.
- The way that buildings are designed and procured through design/build may not be compatible with the level of detail provided in design of the HVAC systems at consent.
- Staged works with each consent could check the detailed design at a later stage but this also comes with risks of rework.
- Industry associations are active in this area and will be useful for communicating the HVAC VM.

Tier Framework for Standards in the Building Code

Overview

Katie Symons presented on work being undertaken by MBIE to develop internal policies on the funding and support of standards in the Building Code. MBIE is proposing to allow for public feedback on the tier framework as part of the consultation in April.

Context

Over 400 documents are referenced in the Acceptable Solutions and Verification Methods. Of these,

- 88 are New Zealand Standards (NZS)
- 81 are joint with Australian (AS/NZS)
- Remainder are other international standards (AS, BS, EN, ISO, etc)

Despite being a performance-based code, the number of references has increased over recent years. The development and citation of standards has currently become untenable to sustain in Building Code updates from both a resourcing and funding position.

Tier framework for standards

It is proposed to use a tiered framework for standard to assign long term priority status of certain standards. This tier framework is presented in the table below. This will be used to determine the level of involvement when updating standards. The status of standards within the tiers can be changed overtime to reflect current needs.

Advice

The Code Advisory Panel provided the following advice:

- **Control of content** – The first step in the evaluation of the standard needs to include whether it should be a standard and whether the Building Code needs to take control of the content in the Acceptable Solutions and Verification Methods. This topic was previously discussed in CAP meetings. If the standard is important, MBIE needs more control of the standard and the content.
- **Out of date documents** – There may be more risk leaving in citations to documents that are out of date. There are options to remove the citation or move the relevant content into an Acceptable Solution or Verification Method. However, just because a standard is old does not mean it is obsolete. It may just need to be reviewed and re-issued.
- **Tier for international standards** – If there are international standards that are important to the New Zealand Building Code, a fourth tier may be required. This would be documents outside of New Zealand control but require close monitoring.
- **Joint standards** – If a joint standard is critically important, there are opportunities to develop this as a New Zealand standard. However, there are efficiencies in sharing work between NZ and Australia and having the same standards between the countries.

	Type of Standard	Funding from MBIE (BSP)	MBIE (BSP) Committee representation	MBIE (BSP) Committee voting	MBIE (BSP) Sponsored Access	Review cycle
Tier 1	NZS	Full	Yes	Yes	Yes	5yr (max)
Tier 2	Can be a NZS joint AS/NZS or international	Partial	Maybe	-	Yes	10yr (max)
Tier 3	Can be a NZS joint AS/NZS or international	Partial/none	No	-	Maybe	Sector driven