Australian Building Codes Board

Consultation: National Construction Code (NCC) 2022 public comment draft (stage 1)

Dear Sir or Madam,

IAG appreciates the opportunity to comment on the Australian Building Codes Board (ABCB) National Construction Code (NCC) 2022 draft. We believe strong building codes protect communities. Where we build and how those buildings are constructed is key to minimising the impact of natural hazards both now and in the future. Improving community resilience to natural hazards starts with a strong building code that prioritizes lives as well as resilient homes, buildings, and infrastructure.

IAG's purpose is to "make your world a safer place". We recognise that our role extends beyond transferring risk and paying claims. Our purpose drives our business to work collaboratively with communities to understand, reduce and avoid risk; and to build resilience and preparedness. This results in better outcomes for the community and means fewer claims and lower costs for our customers. We work collaboratively with governments, industry bodies and Australian and international organisations on a range of issues that relate to our customers, our people and the community including the safety and regulation of the building and construction industry.

We particularly support the ABCB's efforts to improve the useability of the NCC, a more user-friendly and digitally contemporary code will allow it to be more accessible and improve compliance. We also commend the ABCB's open consultation process where the NCC is reviewed regularly and care is taken to consider regulations, government policy directions, updated research, industry bodies and public feedback. It is clear there is strong knowledge and expertise contained in the NCC.

We offer the following suggestions for the ABCB to consider when finalising this draft of the NCC.

1. Define resilience in the NCC

Before the NCC can incorporate resilience, it needs to be defined. Resilience in a building is more than just withstanding a natural hazard. It is building in a way that minimizes the physical and financial damage to the asset in its lifecycle. The building stronger homes roundtable run by the Insurance Council of Australia (ICA) and Master Builders Association (MBA) has a working definition of resilience, agreeing it should factor in the full lifecycle of costs including:

- Upfront building costs
- Expected costs of damage and loss of amenity
- Maintenance and durability
- Emergency response
- Flow on impacts to local, regional, national economies

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We recommend ABCB working with the ICA and the MBA to finalise a definition of resilience that can be included in the NCC.

2. Consider including a section in the NCC on *resilience* to natural hazards

We suggest the ABCB follow the Royal Commission into Natural Disasters recommendation to *"consider the costs and benefits of amending the National Construction Code to add the resilience of buildings to natural hazards as an objective, in addition to the protection of life"*[1]

Australia has a long history of natural hazards. With each natural disaster we continue to see houses, building, infrastructure, and communities destroyed. This highlights that despite many updates and reviews of the NCC, building standards and state-based laws our housing stock and assets continue to be vulnerable and exposed to natural hazards. [2]

Natural disasters have a devastating social and financial impact on Australia. Over the past 30 years, natural disasters have resulted in billions of dollars in tangible costs, as well as social costs such as deaths, injuries and impacts on health and wellbeing. More than nine million Australians have been impacted by a natural disaster or extreme weather event in the past 30 years[3]. In 2019-2020 period we saw the insurance industry pay more than seven billion dollars[4] in claims on natural disasters alone.

We have seen the material impact of large-scale public policy changes to building construction before. Research by the Cyclone Testing Station at James Cook University demonstrated houses that were built post 1980 after the introduction of the Queensland Government's "Appendix 4 to the Standard Building By-Laws (1975-1984)" performed better during storm activity than houses build pre-1980[5]. A change to the NCC now to include resilience will have a direct benefit to people and communities in the future with improved longevity of buildings and a significant reduction in the social and economic impact of a natural hazards when they occur.

The NCC could also facilitate a reduction in damage by requiring builders to consider the types of resilient materials used and how this works with the design. Considering how the combination of building materials and design work together ensures homes are protected from the damage of wind, rain or bushfire. Further research completed by the Cyclone Testing Station (CTS), IAG and Suncorp shows that despite the weather proofing requirements[6] specifying the design of the building must prevent loss of amenity, damage (including loss of amenity) is occurring at levels well below the design level[7]. This research identified water ingress as a key driver of damage costs from contemporary buildings. If the NCC requires builders to consider how the whole system works together and prioritize resilience, then we will see less damage in the future.

3. NCC should move beyond a minimum of life safety to incorporating asset protection

a) **Protecting assets against natural disasters.** As outlined above there is a flow on of costs when buildings are not protected against natural hazards and these costs (both financial and social) in turn take a large toll on our communities, one that can last generations.

   The goal of the NCC is to enable the achievement of nationally consistent, minimum necessary standards of relevant safety (including structural safety and safety from fire), health, amenity, and

[1] https://naturaldisaster.royalcommission.gov.au/publications/html-report/chapter-19
[2] https://naturaldisaster.royalcommission.gov.au/publications/html-report/chapter-19
[3] http://australianbusinessroundtable.com.au/assets/documents/ABR_building-resilience-in-our-states-and-territories.pdf
[4] https://insurancecouncil.com.au/issues-in-focus/built-environment/
[5] https://www.jcu.edu.au/__data/assets/pdf_file/0007/321991/Technical-Report-55-Investigation-of-Performance-of-Housing-in-Brisbane-Following-Storms-on-16-and-19-November-2008.pdf/_noproxycache
[6] https://ncc.abcb.gov.au/ncc-online/NCC/2019/NCC-2019-Volume-Two/Part-38-Health-And-Amenity/Part-381-Wet-Areas-And-External-Waterproofing/Appropriate-Performance-Requirements?inlineLink=%7B9E8D6AD7-C977-4A3C-9FDD-625001BDBD41%7D
[7] https://www.suncorpgroup.com.au/uploads/JCU-Cyclone-Testing-Station-Phase-1-Report.pdf

sustainability objectives efficiently. Although there will always be ongoing amendments to the NCC, the code itself has largely met this goal and have achieved a national consistent benchmark for safe construction in Australia. We believe it is now time to elevate the code to the next level and strive to have a code that enables buildings to both keep occupants safe and minimise damage costs and financial impact of this damage.

The insurance sector holds a great deal of expertise and risk assessment information about the costs and impacts of natural hazards on the built environment. We recommend that ABCB continue ongoing engagement with insurance sector to understand financial risks and cost of building design. The Insurance Council of Australia is continuing work on this with the building stronger homes roundtable series with the Master Builders Association and the new Project Resilience initiative[8]. IAG strongly supports ABCB's engagement in this work and would welcome the opportunity to work with the ABCB on how it can embed the knowledge from the insurance sector in its NCC.

b) **Protecting assets from fire**. The fire design requirement in the NCC is a minimum benchmark for life safety, however insurers when providing cover are looking at the risk of the building being destroyed by fire. Life safety and asset protection are intertwined, and it is difficult to set standards for one that don't impact the other.

What we often see is the original fire design of buildings becoming inadequate or unfit for purpose (from an asset protection perspective) during the life of the building, particularly when the occupancy changes. We often see a commercial construction designed on one set of risk factors, based on a specific occupancy type, become compromised over time. For example, a building can originally have a metal products manufacturer occupancy, but this may change to a textile manufacturer with a higher fuel load. The life safety measures that were originally incorporated into the facility might still be ok for the new occupancy to satisfy NCC requirements but could fall well short from an asset protection perspective. The issue is despite the facility being compliant with NCC, insurers may rate it as 'needs improvement' which has cost implications for the insured.

We propose the ABCB look to elevate the NCC's minimum standards for fire safety so that new buildings can be protected sufficiently to minimise the risk of it being lost in a fire.

We also believe that fire design should be reviewed as standard practice when new occupants move into a building. This is supposed to be done to a degree as part of the annual fire system maintenance (per AS1851:2012) to help ensure all *systems and equipment function correctly and are able to perform in accordance with the approved design*. However, changes in building occupancy don't necessarily align with annual maintenance checks, and where the checks are being done, they are often based on available documentation that is limited at best. Reliance on the original Fire Engineering Report is quickly undermined on change of ownership, with the document quickly becoming lost or forgotten. There would be benefit in having an 'as built' fire engineering document that is recognised as part of the essential building documentation. This would provide a basis for reference, avoiding the need for trying to reassemble the fire design details sufficient to base design changes on. This way occupants and building owners can understand the changes or upgrades needed to protect their building.

c) **In the short term create voluntary resilience options in the NCC**. While working towards higher standard overall, the NCC could in the short term create an option for robust and improved resilience by advocating for increased (voluntary) performance requirements. For example, for wind loading, if

[8] https://insurancecouncil.com.au/issues-in-focus/built-environment/

designing a house using AS4055, the designer could choose to design the house a classification higher e.g., N2 to N3 or N3 to C1. This not only increases the structural design requirements but also the water resistance requirements for windows etc. If this approach of building beyond the minimum was given increased prominence in the NCC, builders and or people commissioning construction (including government) could weigh the costs and benefits of building to this resilience standard that protects lives and assets. We suggest the ABCB work with the insurance industry to create a resilience design option in the code that would satisfy life safety and insurer risk requirements.

4. NCC needs to include a section and/or standard on environmentally sustainable construction

Green building design and environmentally sustainable housing is increasing in Australia and throughout the world. Public awareness of climate change and increasing evidence of the economic benefits of environmental sustainability (including the rising cost of energy) is driving the use of a number of different green materials. At IAG we have concerns that some of the materials and practices being used to create more environmentally sustainable housing may create an additional fire hazard for example, plastic foam insulation, laminated timber, combustible cladding, onsite power generators, wind turbines, building envelope design etc.

We acknowledge the ABCB will specifically cover energy efficiency in the next round of consultation on the NCC. However, in this round we would like the NCC to consider including a section and/or working towards a standard on environmentally sustainable building design, solutions and building materials. This section could outline what is required to be considered a safe sustainable building and what materials are safest and when they should be used. We recommend the ABCB work with the Green Building Council of Australia and the insurance industry on creating this section.

5. Implementation of code –for NCC to succeed there needs to be a clear framework for compliance, audits, and enforcement of penalties

We acknowledge this piece of work may be next to be completed or need to be completed by each state regulatory body. But it is important to highlight that a major part of the success of the NCC is its implementation. This includes compliance monitoring, auditing and enforcements of penalties. Without a clear process for enforcement to accompany the code there are many examples of non-compliance.

We believe the best way to ensure this is done effectively would be to create a national agency that can register professionals, manage complaints, investigate, and enforce breaches. If this outcome is not possible, then all States should work towards a harmonised approach to compliance and the bodies tasked with regulating and enforcing compliance will require significant resourcing to complete the task.

6. **NCC should include section that considers future risk**.

Climate change is already underway and considered by many to be the greatest risk currently facing humanity. Every year we are confronted globally with extreme weather events that become natural disasters. Our communities in Australia are exposed to just about every possible hazard, from earthquakes, severe thunderstorms, and tropical cyclones, to bushfires and devastating floods.

IAG has produced two reports on the impact of severe weather in a changing climate[9]. Our research shows communities can expect an increase in most severe weather hazards. It is essential that the ABCB starts planning now for an NCC that not only addresses resilience in the present but protects people and buildings from the risks they face in the future, as severe weather risk shifts, increases or changes with a changing climate.

[9] https://www.iag.com.au/severe-weather-changing-climate-2nd-edition

The lifespan of an average house built today in Australia is not clear, but it is thought to be an average of 60 years[10]. International climate change goals are focused on a target of net zero emissions by 2050. Even if this is met, a house built to today's standards would not be protected across its lifespan as severe weather hazards change in the future. Houses built today need to be able to withstand the weather of tomorrow, the NCC is a key policy lever for enabling this. If the NCC can include a requirement for builders to consider the change in climate related hazards and costs over the full life cycle of the building this will improve the safety, resilience and longevity of those houses and our communities.

The proposed NCC changes are an important step towards a better and more accessible building code. IAG welcomes the opportunity work with the ABCB to further develop the NCC to include minimum standards for resilient and sustainable buildings that can further reduce risk and protect our communities. We are happy to discuss the issues raised in this submission in more detail. Please contact Naomi Graham, Principal Public Policy, and Industry Affairs at naomi.graham@iag.com.au.

Sincerely,

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IAG

[10] https://propertyregistry.com.au/how-long-will-a-new-house-last/#:~:text=On%20average%2C%20the%20generally%20expected,reaching%20well%20over%20100%20years.