Project 1.53

Resilient Buildings: Informing Maintenance for Long-term Sustainability

April 2017 - September 2018

Resilience of buildings is a national objective in disaster mitigation. Maintenance is the missing link to improving the resilience of buildings in extreme events. The performance of buildings decreases over time and without effective maintenance their vulnerability to extreme events will increase. This industry-driven project will assess the impact of maintenance on the resilience of low-rise buildings in extreme events such as high winds, flash floods and bushfires. The outcomes in terms of implementation strategies will be useful to building owners, governments, banking and insurance institutions.

Objectives

The core problem that this project seeks to address is the consolidation of information on effective maintenance practices that could improve building resilience in extreme events. While considerable work has been carried out on specific problems, including guidelines on maintenance, there are still major gaps between research and implementation and there are emerging issues that need to be considered. Damage from extreme events is still extensive and insurance premiums are still increasing for areas subjected to extreme events.

The research will focus on low-rise buildings, whilst having implications for other types of buildings. The specific objectives of the project are:

1. Identification of critical maintenance items for each type of extreme event
2. Identification of the means and barriers to implementation (regulatory and non-regulatory)

Industry Outcomes

Outcomes are likely to include:

1. A better understanding of the risks of lack of maintenance on the resilience of low-rise buildings.
2. Better maintenance strategies and schedules for buildings.
3. The reduction of exposure to risk in extreme events.
4. Improved resilience of buildings in extreme events.
5. National/state guidelines on maintenance and customised manuals for building owners
6. Policy recommendations for governments, banks and insurance institutions

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