Issue 16 | September 2017

FireNZ

Criminal charges imminent in Grenfell fire negligence

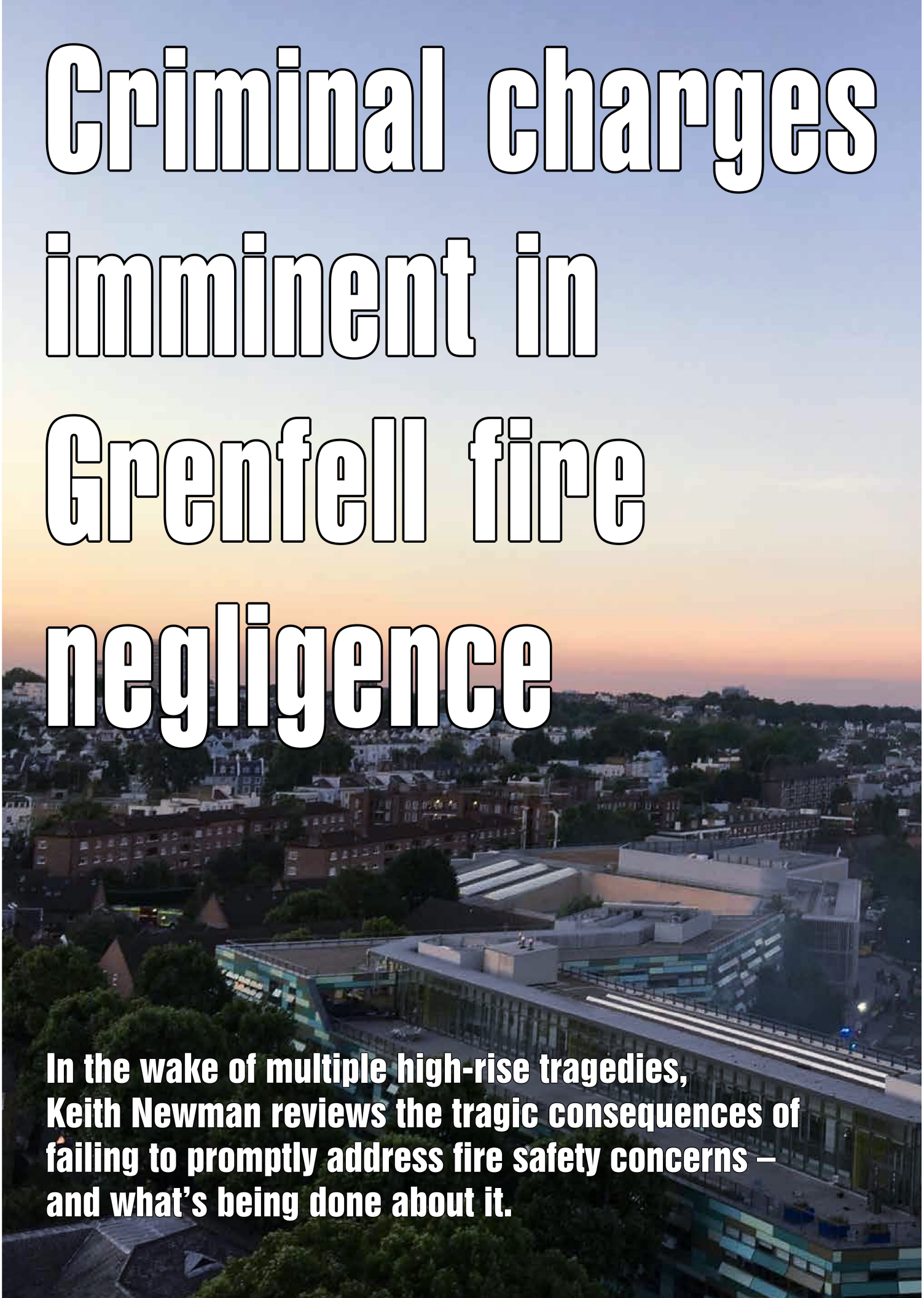
Invisible industry to raise training profile

Keeping the Waterview Tunnel fire protected

FireNZ 2017 Conference & Exhibition

www.defsecmedia.co.nz

Criminal charges imminent in Grenfell fire negligence



In the wake of multiple high-rise tragedies, Keith Newman reviews the tragic consequences of failing to promptly address fire safety concerns – and what's being done about it.

The Grenfell Tower apartment blaze in June 2017. Photo: Natalie Oxford, Wikimedia

If the Coroner's recommendations in the aftermath of the Lakanal House fire in East London in 2009 had been followed through, the Grenfell Tower tragedy with its loss of more than 80 lives might not have happened, says expert witness Brian Davey.

After viewing photos and videos of the rapid spread of the June fire at Grenfell Tower, now the subject of the biggest non-terrorist police investigation in British history, Davey's immediate reaction was "oh, no, not another one?"

He was thinking of multiple fires in recent years where "there was rapid external fire spread due to the composite panels".

Davey, international past president of the Institution of Fire Engineers (IFE) and a former NZ Fire Service national operations manager, was an expert witness in the 2013 inquiry into the Lakanal House blaze in July 2009 where six people died and 20 were injured.

He says it appears post-Lakanal recommendations, including clearer evacuation processes, weren't acted on, and the use of aluminium composite panels was "a contributing factor to fire spread".

Davey's concerns echo those of coroners and fire and rescue services that local government ministers did not compel social housing providers to retro-fit sprinklers or conduct thorough fire risk assessments.

Officials from Kennington and Chelsea councils and the tenancy management organisation could face charges of corporate manslaughter (with) further criminal charges laid relating to health and safety legislation, fire safety legislation and building regulations.

Cladding accelerant

The 14 June 2017 Grenfell Tower fire in Kensington, West London, caused at least 87 deaths and over 70 injuries. Allegedly sparked in a fridge-freezer on the fourth floor, it then spread rapidly with exterior cladding acting as an accelerant.

The fire which burned for 60 hours in the 24-storey, 67-metre high public housing block involved over 200 firefighters and 70 appliances from across London.

Police say officials from Kennington and Chelsea councils and the tenancy management organisation could face charges of corporate manslaughter and be liable for significant fines. Further criminal charges may also be laid relating to health and safety legislation, fire safety legislation and building regulations.

It had been presumed the fire could be contained within a single flat and people would be safe if they stayed inside rather than evacuating, but the flames spread rapidly once the exterior cladding caught fire.

The Grenfell Action Group had repeatedly expressed concerns, including in November 2016 following a major renovation, saying management failed to maintain fire related systems or address fire precautions.

The renovation contract was accepted based on lower cost less fire-resistant aluminium cladding.

Criticisms have since been levelled at the local council for fire safety and building maintenance failures, the fact the fire escape path was limited to a single staircase, and two thirds of gas pipes remained exposed.

Davey says genuine panels may have passed the tests imposed by the UK Government but there's not enough information about those that failed, suggesting some may have been substituted with lesser quality "counterfeit panels".

Brian Davey, international past president of the Institution of Fire Engineers (IFE)

Kiwis less exposed

Building and Construction Minister Dr Nick Smith announced the day after the tragedy that New Zealand was less exposed to the risks of high-rise building fires because combustible cladding was now restricted.

Following the 2014 fire in Melbourne, where a discarded cigarette sparked a blaze fuelled by combustible cladding at the Lacrosse Apartments, and fires in Dubai, amendments were made to the Building Code in January tightening restrictions on the product allowed into the country.

On advice from the Ministry of Business, Innovation and Employment (MBIE), Dr Smith said these systems were not prevalent, although the ministry was asked to require New Zealand councils to conduct an inventory of any high-rise buildings constructed using these materials prior to the amendment.

Early in July, two Auckland buildings were identified as having combustible cladding that needed replacing; the Spencer on Byron in Takapuna and the Nautilus in Orewa. Both claimed adequate fire protection measures were in place, although upgrades were planned. Auckland Council was checking around 150 buildings and was continuing to review those.

MBIE continues to gather information on the number of high-rise buildings within metropolitan council areas that are potentially clad with combustible aluminium composite panels (ACPs), and says 14 of the 18 councils approached had responded by mid-August.

It expects councils to notify building owners if a "potentially affected building is identified" and if deemed dangerous they have the power to act under Section 121 of the Building Act 2004.

Earlier estimates suggested over 200 high rise buildings may have potentially be clad or partially clad with combustible ACPs, but an MBIE spokesperson says it was still analysing the data and didn't want to speculate.

"The majority of these identified buildings are used for public non-residential or commercial use (e.g. car parks, businesses, offices and restaurants)."

MBIE is continuing to work with the remaining councils but its main focus is on Auckland, Christchurch, Wellington, Hamilton, Tauranga and Dunedin due to the greater concentration of high-rise buildings. "Once MBIE has more information we will assess whether there is any systemic risk that requires a regulatory response."

Reiterating that fire protection in most modern New Zealand buildings typically incorporate a number of fire safety requirements, including sprinklers, building-wide alarms and 'all out' evacuation procedures, the spokesperson added, "this means that ACP panels cannot be looked at in isolation when fire risk is being assessed."

Joanne Barreto, president of the Strata Community Association (SCA) representing body corporates, suppliers and services to the industry, suggests the problems appear to relate to "a generation where the design wasn't necessarily fit for purpose."

She says the discovery that combustible aluminium cladding product is widely used throughout Australia's main cities meant it was highly likely another three or four discoveries may be made in New Zealand once councils complete the required inventory.

Barreto says "there's definitely an issue" and she wants more care taken with fire protection systems from building design to sign-off.

Coroner urged review

Following the Lakanal House inquiry, coroner Judge Frances Kirkham, urged all UK councils to review their policies and procedures to ensure risk assessment in high rise buildings was carried out by people with the appropriate competencies.

Those people should have access to relevant information about "design, construction and refurbishment and whether compartmentalisation had been breached".

Judge Kirkham had urged local authorities to walk residents through procedures, including escape balconies and demonstrate how to open fire exit doors, where they led and how people should react in a fire.

She said more work clearly needed to be done by councils to explain the process, including placing notices and signage in flats and common areas and published material showing clearly when residents should remain inside and in what circumstance they should leave.

"Whether these recommendations were translated to other councils is speculative at the moment," says Davey.

He says most high-rise building fires have been safely evacuated with no loss of life, with the fire contained or slowed down by sprinklers.

Australia, New Zealand and most other countries other than the UK have legislation requiring sprinklers be fitted to high rise residential buildings.

Joanne Barreto, president of the Strata Community Association (SCA)

"The Lakanal and Grenfell apartment buildings are 50-60 years old and there were no major fire events in that time so the common thing appears to have been renovations," says Davey.

Recommendations of the Lakanal House inquiry in 2013 appear to have been ignored

The Lakanal and Grenfell apartment buildings are 50-60 years old and there were no major fire events in that time so the common thing appears to have been renovations

Brian Davey, International Past President of the Institution of Fire Engineers (IFE)

Michael James, vice president of the Society of Fire Protection Engineers (SFPE)

With Lakanal "part of the timber staircase into the common corridors" was exposed and fire spread rapidly through the aluminium composite cladding on the outside. He wonders if the original fire engineering design was changed at Grenfell during the 2016 renovations and whether sprinklers should have been added.

This was debated with a number of prominent fire engineers at the IFE meeting in Manchester in July, where it was insisted "sprinklers aren't everything". While agreeing, Davey says that sprinklers may have "contained the fire to the room of origin".

After the 2013 Lakanal inquiry, a resident's representative sent an email to Davey concerned at the lack of follow-up action, stating some local councils did not have fire certificates for buildings, had incomplete certification for renovation work, and that a number of contractors that had gone into receivership.

Davey says this reminded him of the leaky building crisis in New Zealand. "How many construction industry companies closed down or went bankrupt and disappeared?"

Council fined for negligence

In February this year, Southwark council was fined £270,000 plus £300,000 costs after admitting it failed to address fire safety risks in the years leading up to the Lakanal fire, which had started in a television set in a ninth-floor flat, spreading with great ferocity through the 98 units.

Residents, including the six people who died and at least 20 injured, had been told to stay in their homes by emergency operators who believed fire safety measures were in place to protect them from smoke and flames.

The London fire brigade, responsible for enforcing fire safety laws, brought four charges against Southwark council as the landlord and owner of Lakanal House.

There had been repeated calls from the London Fire Brigade and others to learn from the tragedy and ensure large housing providers knew their legal responsibility for meeting all fire safety requirements and keeping residents safe.

Davey says Coroner, Judge Kirkham, recommended to the Department of Communities and Local Communities that national guidance be provided "in relation to the stay put advice and get out and stay out policies" and how this was disseminated. She identified "insufficient clarity" around previous advice.

Davey says the Grenfell tragedy is another reminder that passive and active fire systems are interconnected and work together — if one fails it creates vulnerabilities.

"Fire stopping in buildings has often been abysmal and contractors need to understand how wall penetrations for different services may undermine this."

He says it's imperative there is appropriate testing in building renovation, construction and certification and verification "to stop counterfeit product being deliberately or accidentally substituted for what is stipulated in the original design work". It's an "emerging problem" caused by a continual drive to cut costs.

Simplifying legislation

Davey says fires that cause loss of life and huge damage are a global problem and "we need to take note of what's happening, fully learn our lessons and relate it to what we do here."

Part of that, he says, "links back to legislative requirements and how fast legislation or building codes can be changed".

He says there's a global and industry-wide problem in trying to ensure different parts of legislation are easily understood and well linked together so everyone involved can understand what is intended.

SCANZ chairperson, Joanne Barreto blames regulatory failure for the fact combustible materials have been allowed to be used in the first place, and wants more stringent oversight to stop the flow of unsafe material into New Zealand.

While conceding specified products have not always been used, she says there's no evidence yet of what might be considered counterfeit product being used in New Zealand.

The Building Industry Federation estimates non-conforming building products cost the country $92 million annually in enforcement and replacement costs. Barreto wonders whether New Zealand has been so focused on getting itself out of the housing crisis, especially in Auckland, "that we haven't paid enough attention to other areas that are clearly important".

Back to design basics

While there's been a lot of focus on passive fire protection systems, she urges the fire protection industry to gather more information about where defects are occurring and what needs to be looked at to "ensure current designs and standards are up to scratch".

While building compliance and Building Warrants of Fitness (BWOF) are looked at regularly "they need to be fit for purpose at design stage and implemented properly for them to work because when it's tested is when it falls apart."

Meanwhile, Barreto wants some clarity on who would pay for inspections and repairs, concerned that building owners might be held responsible and have to pay even though they had nothing to do with defects in construction. She was hopeful liable parties might be forced to contribute to repairs and replacement of non-complying product.

Minister Nick Smith says our building regulations need to keep pace with the shifting trend of more people living in high-rise

apartments and the greater risk from fire hazards to ensure "New Zealand never experiences what occurred at the Grenfell Tower in London".

Michael James, vice president of the Society of Fire Protection Engineers (SFPE) says the cladding suspected to have been used is ACM (aluminium composite material); two sheets of aluminium sandwiched around a low-density core, which can be either fire retardant or polyethylene. "The polyethylene core can melt and is quite combustible," he says.

"Up until this year it could be installed on a building up to 25m (7 floors) high provided the building had a sprinkler system installed, it was considered that sprinklers would be enough to protect the building."

Following Building Code revisions this year an ACM panel with a polyethylene core can now only be used on low rise buildings up to around seven metres in height.

Proposals for further tightening fire safety requirements for high-rise buildings went out for public consultation with submissions closing in July.

Up until this year aluminium composite material (ACM) could be installed on a building up to 25m (7 floors) high provided the building had a sprinkler system installed... Following Building Code revisions (it) can now only be used on low rise buildings up to around 7 metres in height

Michael James, vice president of the Society of Fire Protection Engineers (SFPE)

Recommendations of the Lakanal House inquiry in 2013 appear to have been ignored

A month after the Grenfell fire, a Honolulu high-rise, not equipped with sprinklers, claimed three lives with 122 people injured. The 1970s condominium was built when legislation did not require sprinklers, although local authorities were now considering a law change to retrofit such buildings.

Then in the first week in August one of the world's tallest residential buildings, Torch Tower, lived up to its name when 40 floors of the 86-storey structure caught fire, sending debris plummeting to the ground.

No injuries were reported but it was the second time in two and a half years that the 355m tall tower had been ravaged by fire. In fact, several skyscrapers in the United Arab Emirates have caught fire in recent years including the New Year's Eve 2016 blaze that engulfed a 63-story luxury hotel.

New fire safety rules came into place in the UAE earlier this year requiring buildings with quick burning side panels to replace these with more fire-resistant product. It's been acknowledged that at least 30,000 buildings across that country have cladding or panelling likely to accelerate fires.

Meanwhile, the London Fire Service says an investigation report into the Grenfell Tower blaze will not be released publicly until the completion of full inquests into those who died, which allegedly "could take years".

Police are conducting a criminal investigation into the blaze and a public inquiry requested by Prime minister Theresa May could take place before the inquests.

UK local authorities are now urgently inspecting 4,000 tower blocks across the UK, many of which are covered in similar cladding to that used on Grenfell Tower. At last count, 60 had been identified as failing to have had follow-up fire safety tests.