

## Fire Research & Investigation Unit

# Heads Up



### BACKGROUND

During May 2006 a fire occurred in a Rest Home and Hospital complex in Auckland that could have led to a loss of life or lives. This document summarises the findings of the Fire Investigation and Post Incident Audit that were carried out on the incident.

The complex is a series of one and two level buildings that are interconnected through long corridors and service rooms. The original buildings were purpose built circa 1960 with the wing that the fire was in being added during the mid 1980s.

The wing in which the fire occurred, was timber framed with bevel-back weatherboards, aluminium joinery and corrugated iron roofing.

The complex had the following Fire Safety Precautions in place:

*(Technical reference in italics)*

- An automatic sprinkler system. Emergency warning system with alerting device (bells) throughout.
- Local sounding smoke detection system throughout the buildings but not connected directly to the NZFS - there were procedures in place as to how staff responded to these activations.
- Smoke control door hold open devices which are released on alarm activation.
- Manual call points located near exit doors *in accordance with NZS4512:1997*.
- Emergency lighting installed in all internal exit ways, corridors, passageways and common areas.
- Exit signage installed throughout.
- A current Building WOF was in place and the premises had an approved evacuation scheme.

### INCIDENT DETAILS

Just before midnight a fire started in a lounge area between two sleeping areas as shown on the floor layout on the next page.

All residents were in bed except for one who had been in an outside smoking area, she was seen by staff returning to her room just before the fire. The three staff working at the time were carrying out normal duties when the fire alarm activated due to a smoke alarm activation.

Staff went to the panel however were not able to clearly interpret what was showing. The head nurse instructed the other two staff to check the rest home while he looked at a second panel in the hospital area.

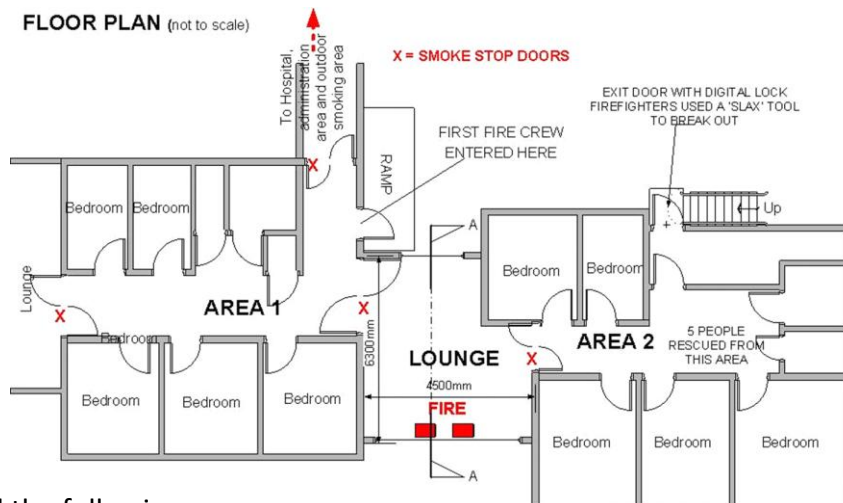
One of the staff members discovered the fire when she opened double doors leading into the lounge to find it completely smoke logged. After having the door open for about a minute to contemplate if she could get across to area 2, she felt overcome by the smoke so closed the door and concentrated on evacuating area 1. When the head nurse arrived he also opened the double doors for about another minute in an attempt to get across to area 2 but also had to retreat due to the heavy smoke.

No fire-fighting was attempted by staff so the fire continued to grow until it activated the Sprinkler system which alerted the Fire Service at 23:58:33 hours. At 00:00:52 a 111 call confirming the fire was received.

The first fire appliance arrived at the premises within 4 minutes of being notified. Arriving fire-fighters entered through the door at the top of the ramp and assisted in completing the evacuation of area 1. They also extinguished the fire in the lounge and carried out the evacuation of area 2.

During the evacuation, fire-fighters were unable to open the exit door from area 2 due to it being locked with a digital combination lock.

While it was later discovered that the code for the lock was displayed on a notice on the top left of the door, this was not visible due to the smoke haze. During the evacuation fire-fighters used a 'slax' hand tool to force their way out.



### FURTHER INFORMATION

Investigations into the incident highlighted the following:

- There were two seats of fire which appeared to be deliberately lit.
- Due to the roof shape, the Sprinkler Head that activated did not discharge on the actual fire. Fire-fighters extinguished the fire on their arrival.
- There appeared to be excessive smoke outside the area of origin, this could have been a result of the doors being held open on 2 occasions by staff. There were also gaps of up to 10mm at the top of some doors and a possible delay in the automatic closing of one of the doors when the alarm activated both of which could have also contributed to the smoke spread.
- Five people suffered smoke inhalation.
- While Fire Service approval had been sought for the digital lock on the exit doors, all of the provisos that formed part of that approval had not been met. This was not compliant with the Building Code.
- There was some confusion with staff reading the panel, and a slight variance to the actions defined in their evacuation scheme which resulted in a slight delay of the 111 call being made.

### LESSONS LEARNED/RECOMMENDATIONS

This incident highlights the need for contractors to ensure that installations meet relevant standards. In this case the Sprinkler System did not provide full coverage to the lounge room and therefore this needed rectifying.

Maintenance and seal replacement to the smoke stop doors may have also helped reduce some smoke spread beyond the area of origin. Seals should be regularly checked in all buildings with smoke control doors fitted and replacements carried out as required.

The locked exit door was an issue and highlights the need to have doors that can be easily opened in an emergency. One method of complying with the requirements of the Building Code is to install electronic digital locks that will release automatically when the fire alarm system activates.

The importance of staff training was also highlighted by this incident. The correct reading of the panel may have allowed the fire to be found sooner and had a 111 call been made as soon as the fire was discovered the Fire Service could have been notified and on route earlier.

### INFORMATION SOURCE

New Zealand Fire Service Technical Report/Post Incident Audit, Auckland Local File Number R05.03.PIFEA.WOODWARD.



For more information, or to contribute to 'Heads Up'  
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