MFB Submission:

Senate Economics Reference Committee Inquiry into Non-Conforming Building Products

1. Introduction

The Metropolitan Fire and Emergency Services Board (**MFB**) is a Victorian emergency management organisation whose primary aim is to create a safer community. Under the *Metropolitan Fire Brigades Act 1958* (Vic) (**MFB Act**), the MFB is responsible for providing emergency response, fire safety, suppression and prevention services to over 4 million residents, workers and visitors in metropolitan Melbourne and the Port Waters of the Port of Melbourne. In all its operational activities, the MFB's primary objectives are the preservation of life, property and the environment.

In addition to its fire and rescue functions, the MFB undertakes a range of other activities, including:

- providing advice on fire safety issues in the built environment;
- providing emergency medical response;
- providing emergency response coverage to the inland waters and the Port Waters of the Port of Melbourne within the Metropolitan District;
- developing fire safety and emergency plans for major events;
- participating in community safety activities; and
- providing assistance in relation to a range of emergencies, including industrial accidents, hazardous material handling and storage incidents and chemical, biological and radiological emergencies.

The MFB is the statutory authority that has the responsibility to provide fire safety, fire suppression and fire prevention services along with emergency response services in the metropolitan district of Melbourne.

The MFB is committed to publically advocating for the safety of members of the community to ensure the risk to life and property is reduced so far as is possible. It also works closely with community groups, facilitating education campaigns and programs to ensure that people are equipped with the skills, information and tools needed to prevent, prepare, respond and recover from emergencies. The MFB has a long history of advocating for improved fire measures, including leading debate on compulsory smoke alarms, sprinkler systems in homes for the disabled, fire systems in tunnels, fires arising from insulation during the Home Insulation Programme, fire risks arising from hoarding, addressing juvenile fire lighting behaviour and improving fire safety in boarding houses.

The Senate Inquiry's terms of reference seek submissions regarding the economic impact of non-conforming building products, the workplace safety risks, the associated costs passed to the community, the overall quality of buildings and the effectiveness of the current regulatory framework. The purpose of this submission is to assist the Senate by explaining the MFB's views on the fire-

related safety risks, costs and impacts of non-conforming building products, the gaps in the regulatory scheme and the effect of decreased building quality as they relate to the responsibilities and activities of the MFB. This submission defines both non-conforming and non-compliant building products as those products that do not meet standards set under the Building Code of Australia (**BCA**).

This submission focuses on the November 2014 Lacrosse building fire in Melbourne as a case study of regulatory failures and the significant risks and impacts caused by the use of combustible non-compliant building products. The issues encountered in the Lacrosse fire raise questions about how non-compliant products are allowed to enter the Australian market and how the regulatory scheme fails to:

- identify the products;
- consider their application in product testing;
- provide sufficient documentation to determine compliance with product design standards or responsibility for inappropriate product use; and
- take action to mitigate risks.

These failures result in significant risks to the safety of community members and significant increases in occupational health and safety risks to firefighters and the operating costs of the MFB. These increased costs are eventually passed on to the community.

The MFB raises these issues in the context of the Lacrosse fire in Melbourne's Docklands as one example of a dangerous non-compliant building product, but it is aware of a number of other non-compliant products and how similar issues are faced in other states and territories across Australia.

The product identified in the Lacrosse fire was combustible aluminium/polyethylene composite panelling (**ACP**). The use of this product in a non-compliant manner means fires are more likely and those fires will spread more rapidly, cause more damage and potentially result in a loss of life. The extent of penetration of this product across Australia is currently undetermined. The unquantified risk and lack of understanding of the extent to which this product has been used in Australia directly impacts on the MFB's planning and operational response by changing its fundamental assumption that buildings are constructed in compliance with the BCA.

The MFB's role in the built environment has been significantly diminished over time within the building regulatory framework. In earlier periods of it's history the MFB was more directly involved in approving and overseeing compliance requirements in relation to the structures within the Metropolitan District. Since the mid 1990's MFB has two key areas where it is formally referred to in the regulations. Firstly, the Chief Officer of the MFB is a prescribed reporting authority for the issuing of a building permit or of an occupancy permit (regulations 309 and 1003 respectively). Secondly, the MFB is listed as a 'major stakeholder' in the development and approval of performance based fire safety building designs and alternative solution under the BCA. Neither of these roles allows the MFB to formally exercise any authority in preventing the use of non-compliant building products.

Despite its limited formal role, the MFB provides proactive guidance and assistance to the industry and the community, issuing building and product guidelines, assisting with fire engineering reports, and advocating for regulatory reform where there is a risk to life or where safety is likely to be compromised. It is in this capacity that the MFB makes this submission and asks the Senate to investigate potential actions to prevent future risks to community safety.

Key points

- The non-conforming ACP cladding in the Lacrosse building fire was combustible and contributed to rapid-fire spread and greater risk to the community and fire fighters than should have occurred. The MFB's analysis indicates that it is fortuitous that the fire did not cause greater property damage and loss of life. Fire safety in modern buildings should not be a result of good luck.

- The ACP cladding at the Lacrosse building has been found in a number of other buildings after an audit of 170 high-rise buildings, but the extent of its use is unknown and the resultant risk is unquantified.

- The existence of a combustible non-conforming product indicates there are failures in the regulatory scheme. These failures are likely to result in higher numbers of structure fires and for these fires to be of greater intensity with higher consequential costs to the community.

- The MFB bears increased costs across its operations, from planning and response, to investigations and ongoing activities, including mitigation activities for existing building where ACP has been identified.

- The highly combustible nature of ACP means the MFB cannot rely on its fundamental assumption that buildings are constructed from products that comply with fire-safety regulations and testing.

- The MFB has responsibilities for fire fighter safety under relevant occupational health and safety legislation. The use of ACP changes the risk-profile of a fire incident, especially in a high-rise building.

- The use of non-compliant products means the BCA cannot be relied upon to ensure products are fit for the purpose for which they are used, and that fire-safety objectives in the code are being met. The use or application of building products must be considered as part of the testing and approvals process.

- One clear gap in the regulations is the test for combustibility under the BCA. The requirements for ‘evidence of suitability’ are not robust, and fire safety engineers are not always appropriately experienced to assess the use of products.

- MFB believes product testing should occur prior to importation.

- There is a lack of product design documentation in the Lacrosse fire and this makes it virtually impossible to ensure compliance testing has been satisfied or determine responsibility when products are used illegally or incorrectly.

- There are a number of non-compliant products other than ACP in use in buildings such as glass, plywood and electrical wiring. These create additional fire risk. In situations such as Lacrosse where there are other complicating factors such as overcrowding, the risk of loss of life or injury is multiplied. The MFB is concerned that the examples involving ACP are only a very small proportion of the buildings where non-compliant products pose a life safety risk. This could be the tip of the iceberg.

- The failure of the enforcement and audit regime means both risk to life and costs are increased. This regime needs immediate improvement, and severe penalties for failure to comply with the appropriate standards.

2. Case study – Lacrosse Dockland Fire

At 2:24 am on 25 November 2014, MFB fire crews responded to a call for an apartment fire at the Lacrosse Building on La Trobe Street, Docklands. When fire crews arrived on scene at 2:29 am, the fire had extended up the external walls and balconies over approximately six levels. Six minutes later the fire had reached the roof of the building above the 21st floor. A subsequent investigation found that the fire was started by an unextinguished cigarette left on a balcony on level eight.

This fire spread much more rapidly than would normally be expected and lead to multiple seats of fire on multiple levels simultaneously. The use of a non-compliant or non-conforming **ACP** material lead to significant vertical fire spread.

While MFB acted to minimise damage and injury, the social impact of this fire was considerable. All residents of the building were displaced for nearly a week during building refurbishment and reinstatement of the fire safety systems. The fire affected apartments remain uninhabitable.

3. The fire safety risk of non-conforming building products

Realisation of the risk

The use of non-compliant building products has been a national issue within the building industry for many years. The extent of the risk of using such products was recently realised for the MFB as a result of:

- responding to a fire at the Lacrosse building (as detailed above in the case study);
- the Post Incident Analysis (**PIA**) prepared by the MFB that was undertaken as a result of the fire at Lacrosse; and
- an audit being undertaken by the Victorian Building Authority (**VBA**) into the use of exterior cladding on 170 high rise buildings within inner Melbourne.

The PIA is attached to this submission at Attachment A. In summary, the PIA outlines the sequences of the fire events, and comments upon the suitability of the building materials used in the construction of Lacrosse, the performance of the installed fire equipment, evacuation of the building and fire causation. Some of the relevant observations that came out of the PIA included:

- the ACP cladding used on the façade of the building was combustible and did not conform with the National Construction Code (**NCC**) as it should not have been used on a Type A building such as residential apartments in this application;
- as the ACP cladding was combustible, it contributed to rapid fire spread up the façade of the building;
- the ACP cladding was affixed to the building using double sided tape which failed in the presence of fire, causing large panels of flaming cladding to delaminate from the building and create fires in apartments below the original source;
- there was evidence of a high occupancy rate in some of the apartments;
- some balconies were being used to store household goods, meaning there were increased fuel loads on balconies;
- the rapid spread of fire created the need for a mass evacuation; and

- some firefighting equipment was inaccessible due to occupants storing goods in fire-safe equipment cupboards.

As a result of the PIA and the specific risks identified by the presence of ACP, the VBA took a number of actions. These included commencing an audit on high rise buildings in inner Melbourne and surrounding suburbs built in the last 10 years to determine whether the use of external cladding complies with the NCC. This audit is yet to be completed, but has already identified a number of buildings with elevated risk profiles including critical community infrastructure, such as hospitals.

Unquantifiable risk

Based on the risks that were realised as a result of the Lacrosse fire and subsequent reports and audits, the MFB's position is informed by its knowledge in relation to the use of ACP cladding in high rise buildings. The MFB does, however, acknowledge that the risks associated with the use of non-conforming building products extend much further than just ACP cladding, into products such as electrical cabling and fire rated plaster board. These issues are discussed in more detail later in this submission.

A major concern for the MFB is that the risk created by ACP cladding and other non-conforming building products in metropolitan Melbourne is unquantifiable. This makes both the MFB's short term planning and response to fires and other emergency situations and its long term planning for resourcing and appliance needs more difficult.

Even in relation to the risk posed by ACP, the current audit conducted by the VBA involves buildings over 25 metres in height. Further work will be needed to identify the risk for buildings of a lower height. The risk in these buildings is currently unquantifiable. There may be a significant cost involved in making these buildings safer for residents, for example the retrofitting of sprinklers.

4. The impact of the risks

This part addresses the Committee's terms of reference (a) the economic impact of non-conforming building products on the Australian building and construction industry, and (b)(ii) and (iii) the impact of non-conforming products on workplace safety and any associated risks, and on costs passed on to customers, including any insurance and compliance costs.

Life Safety and Property Loss

Ultimately the MFB makes this submission because of a concern about a risk to life safety because the use of non-compliant building products means that fires may spread faster, cause more damage, be more unpredictable and be less safe for firefighters. In some situations the MFB may need to withdraw firefighters from responding to parts of a building where non-compliant products are in use because of a risk to their life.

It is difficult to accurately estimate the potential for property loss or loss of life or to put an economic value on this. The MFB asks the Senate Economics Reference Committee to recognise that the cost of non-compliant building products is an increased risk to life safety, and a related possible drop in confidence of property owners in (a) the safety of their homes and (b) the ability of the fire services to protect them. This is of the utmost concern to the MFB.

Safety of fire fighters

Responding to fires at buildings that contain non-compliant products not only increases response costs, but also increases the risks to the safety of fire fighters responding to the fire.

The health and safety of fire fighters is paramount to the MFB. The MFB has responsibilities under the *Occupational Health and Safety Act 2004* (Vic) to provide a safe workplace for its employees, including responding fire fighters. The concept of 'workplace' is far-ranging for fire-fighters, as any

structure or building within the area of the MFB's responsibility can become the workplace of a fire fighter, most critically in this case where the MFB is called to a property where there is an alarm of fire.

When non-conforming building products are utilised in the construction of a building, or compliant products are utilised in a non-conforming manner, the MFB's standard firefighting responses may become counterproductive, and the circumstances would pose a significant risk to firefighter workplace safety as materials used in the construction of the building may not behave as expected during a fire. Such circumstances may prevent or compromise the safe evacuation of premises, resulting in an increased likelihood of injury or death of occupants of the premise or responding firefighters. In situations where the MFB does not know if conforming products have been used, it is also possible that the MFB may need to modify its response to be less aggressive and therefore safer for firefighters because of an apprehension of risk.

The risk to firefighters may also be greater for fires where non-conforming products are used, because of other related factors. For example, responding fire fighters at Lacrosse, and the subsequent PIA, found evidence that some apartments contained bedding arrangements and ad hoc room partitions indicating a higher occupancy level than would usually be expected. Unexpected environments such as overcrowding only multiply the already increased risk to the safety of firefighters and the occupants of the building. The MFB is generally considering how it responds to fires in high rise towers in some areas as it is increasingly common for occupancy levels to be exceeded.

Where high risk buildings have been identified by the MFB, it is likely an enhanced response has been implemented in relation to that location and more fire fighters will be deployed to respond to the incident. This increases the number of firefighters who are potentially faced with a high risk situation. It is the MFB's position that as a result of firefighters being placed in high risk situations more frequently, the MFB could be faced with increased costs such as WorkCover insurance.

Cost shifting to the MFB

It is the MFB's position that the use of non-compliant building products, or compliant products being used in a non-conforming manner, occurs as a result of major failures in the regulatory system. The regulatory system does not ensure that stakeholders, such as building surveyors, architects and builders, comply with the requirements set out in the Victorian and national building regulatory framework. Such major failures in the regulatory system have recently been reported in the media following the Lacrosse incident and a building excavation pit collapse where the permits for these developments were issued by the same building surveyor. This is detailed in the link to the following media article. http://www.theage.com.au/victoria/victorian-building-surveyors-guilty-over-more-than-700-misconduct-claims-20150730-giofcr

The effect of the failure of the regulatory system and the resultant use of non-conforming building products is ultimately contributing to increased risks to community safety and increased costs associated with fire brigade activities and insurance. The costs are passed on to consumers by way of an increase in council rates on property owners from grants from the Victorian Government, and from other charges such as false alarm charges.

Planning

The MFB is now aware of the significant risks of responding to a fire incident at a building or structure where non-conforming building products are or may be present. However, as set out above, this risk is unquantifiable. This means the MFB has had to put considerable time and resources into planning how to mitigate and respond to such risks.

An immediate cost to the MFB is the requirement to provide additional fire fighters and fire appliances (referred to as an enhanced response) when responding to fire incidents in buildings that are known to contain non-compliant building products. For example, the incident at the Lacrosse building has resulted in the MFB implementing an enhanced response for all future incidents at that building.

As more buildings are identified as high risk, the MFB will be required to consider the implementation of more enhanced responses to deal with the possibility of an increase in significant fire incidents such as Lacrosse. While it is hoped the risks will never be realised, the requirement to implement a greater number of enhanced responses will have long term cost implications for the MFB, as it may be required to spend money on recruitment, training, additional appliances and specialised appliances.

Response

MFB practices are informed by training and experience that allow fire fighters to determine appropriate actions in specific environments under specific circumstances. By way of example, it is generally accepted by fire services across Australia that the procedures implemented to deal with medium-high rise building fire events do not require significant variation. Such procedures are based on a long history of analysis of fire behaviour in this type of structure and well-founded assumptions in relation to:

- the spread of the fire;
- the point of origin of a fire; and
- the nature of the materials that may be present and their locations.

However, when the MFB responds to a fire at a building or structure that contains non-compliant building products, the MFB's model of response is compromised as the MFB cannot rely on its usual practices and assumptions to control the fire and risk. As such, the MFB is required to implement mechanisms to mitigate risk to life and reduce property damage by providing an enhanced response. The need to provide an enhanced response places a strain on limited resources and potentially compromises response times at other locations.

Inspection/advice

MFB resources are increasingly being consumed to provide advice to various stakeholders in relation to the mitigation of fire risk.

As the MFB is now aware of additional risks in relation to non-conforming products being used in the construction of buildings, it may require more thorough inspection and examination of structures to ensure that a building is safe for occupancy. This is especially true because documentation in relation to product specifications is often inadequate.

Ongoing issues and activities

Significant cost is created for the MFB once it becomes aware of the risk of non-conforming products in a building, as it creates an obligation on the MFB for ongoing involvement.

For example, as a result of the Lacrosse fire, the MFB:

- has been involved in community meetings with different stakeholders about the potential risks to owners and occupiers, and the general community;
- is assisting the VBA in its audit of 170 high rise building in metropolitan Melbourne, through accompanying municipal building surveyors to locations and inspecting elements of fire safety; and
- receives notification of the Lacrosse building's enhanced maintenance schedule, every 3 months (instead of once a year).

While these measures are necessary and help to manage the risks to the lives of the owners and occupiers, they come at a cost to the MFB.

Cost shifting to the community

There are also additional costs to the community of responding to incidents created by fires enhanced by non-conforming products. Ultimately, as a result of the presence of non-conforming building products costs are passed on to the greater community.

The higher costs in relation to responses to system-generated calls that are determined upon investigation to be false alarms will be passed onto owners/occupiers. Pursuant to the MFB Act, an owner, occupier or Owners Corporation can be required to pay to the MFB the fees and charges associated with the attendance of fire fighters in the event of a false alarm, based on a charge per appliance. Unfortunately, despite the best efforts of the MFB to educate building managers and residents, and despite the presence of the charging mechanism, the MFB attends over 14,000 false alarms every year, making up a large proportion of the total number of around 35,000 emergency responses per annum.

In most cases, the MFB's automated response arrangements respond to fires in particular residential premises by dispatching 2 or 3 appliances. If a building is subject to an 'enhanced response' from the MFB because of the presence of materials such as ACP, and a false alarm occurs, the person or body responsible will be subject to increased costs, because 3, 4 or 5 appliances will be dispatched based on the risk profile. This will, in many cases, double false alarm charges. The MFB will have to take steps to monitor use of alarm systems to ensure that property owners do not interfere with or isolate automatic fire alarms and monitoring arrangements to avoid false alarm charges. The MFB will incur additional costs to not only monitor use of alarm systems but to take steps to prosecute building owners and occupiers for non-compliance in relation to alarm use and maintenance.

While the extent of the risk has not yet been determined, the community may encounter future cost implications including:

- rectification costs in making buildings safe and compliant with the regulatory scheme; and
- costs associated with recovering the costs of rectification such as costs relating to obtaining legal advice and other professional advice.

5. Identified problems with building regulation in the industry

This part addresses the Committee's terms of reference (c) possible improvements to the current regulatory frameworks for ensuring that building products conform to Australian standards, with particular reference to the effectiveness of (i) policing and enforcement of existing regulations, (ii)

independent verification and assessment systems, (iii) surveillance and screening of imported building products, and (iv) restrictions and penalties imposed on non-conforming building products.

As a result of the Lacrosse fire and other incidents, the MFB has identified a number of areas of concern in the building regulatory scheme that directly impact on public safety. The MFB believes that these areas should be thoroughly investigated and that solutions to these problems will require consideration from all relevant stakeholders within and outside of the building industry.

Fit for purpose

The foundation principle in the BCA with respect to building products and forms of construction is that they must be "fit for the purpose for which they are intended". With this basic principle in mind, the BCA contains a number of specific safety objectives. The most relevant objectives for fire safety are to:

- safeguard people in the event of fire in a building and during evacuation;
- facilitate the activities of emergency services personnel; and
- avoid the spread of fire between buildings.

The MFB believes that these objectives must be met at the product testing and certification stage in order for risk to the public and fire-fighters to be reduced.

The MFB's view is that all building products must be fit for purpose based on independent testing and certification that conform to Australian Standards. The MFB notes that the testing and certification process under the Australian Standards regime does not mandate independent testing, and that other models for certification exist. The MFB recommends that the Senate explore the applicability of these other models to ensure that products are assessed by an independent body.

In order for testing to appropriately assess the suitability of building products, the MFB recommends that testing must consider the real-world applications of such product. That is, all the probable uses by those in the industry should be contemplated and specifically addressed. In the case of the combustible aluminium composite panels found in the Lacrosse building fire, it is clear that the testing only considered the internal application of the product and did not consider the use of the product on an external façade. The MFB has found that many engineers have attempted to use tests based on internal application standard (AS9705) to justify the use of combustible products on external façades.

Example: Gaps in BCA 'evidence of suitability' for combustible products

In order to prove a product is non-combustible under the BCA, there are several steps to be followed and options for proving a product is suitable for use. A detailed examination of the application of the BCA provisions, and specifically the option to provide 'evidence of suitability,' is illustrative of the gaps in the regulatory scheme under the BCA.

Under the BCA, a product is considered non-combustible only if:

- it is successfully tested according to the Combustibility Test for Materials standard (1530.1:1994);
- it meets the criteria in c.1.12 of the BCA; or
- 'evidence of suitability' is submitted to show the material is fit for purpose under A2.1, and meets the level of performance required under the BCA.

When a sample of the ACP product used as external cladding the Lacrosse Docklands fire (Alucobest) was given to the CSIRO to be tested using the Combustible Test for Materials, it failed to satisfy the test. There was no documentation that Alucobest was tested under the Combustible Test for Materials

or that it met the criteria in c.1.12 of the BCA. It is uncertain as to whether Alucobest was approved through the submission of 'evidence for suitability'. The MFB has not been advised of this nor has the MFB been provided with any documentation to confirm this to be the case. Nevertheless, in the event it was approved in this way the 'evidence of suitability' method for establishing non-combustibility has a number of gaps.

Under the BCA, 'evidence of suitability' may be provided by one or a combination of five possible methods:

1. A report by a Registered Testing Authority;
2. A current Certificate of Conformity or Certificate of Accreditation;
3. A certificate from:
    a. a professional engineer; or
    b. 'other appropriately qualified person';
4. A certificate from a product certification body accredited by the Joint Accreditation System of Australia and New Zealand (**JAS-ANZ**); or
5. 'Any other form of documentary evidence' describing the properties and performance of the material and 'adequately demonstrates its suitability for use in the building."

The testing method required to prove there is 'evidence of suitability' that a product is non-combustible is not specified in the BCA. This means a building surveyor or certifier becomes the ultimate decision-maker in determining whether there is evidence of suitability, and as a result whether the tests performed to produce that evidence, will satisfy the safety objective and be fit for purpose.

Analysis of five methods for providing 'evidence of suitability'

For the first method of providing evidence of suitability, there is no requirement that a report by a Registered Testing Authority under the National Association of Testing Authorities (**NATA**) in the relevant field must consider the intended application of a product.

For the second method, many ACP products have Certificates of Conformity under the CodeMark scheme. The registered building surveyor must accept a CodeMark Certificate of Conformity as evidence of suitability of a product for the proposed use. However, CodeMark certificates do not list details of the evidence, test reports, assessments and other supporting documentation that the certification is based upon. No details are provided about the qualifications, experience or competence of the person performing the assessment. As an example of the discrepancies in this process, the MFB has encountered products that appear to be identical in construction and composition but have been subject to different limitations. The MFB is also aware of situations where CodeMark certificates have been revised without the knowledge of the manufacturer.

For the third method of providing evidence, the MFB has observed that many assessments have been performed by registered fire safety engineers who do not have the appropriate experience and competence in the field of fire testing, and do not appear to understand the difference between resistance to fire tests and fire hazard property tests. In the MFB's opinion, many engineers do not appear to understand the test methods and their limitations, including the applicability of the tests to real fires scenarios. The MFB recommends that assessments should be performed by engineers not only with appropriate qualifications but also with a requisite level of experience.

For option (b) under the third method of evidence, the MFB believes the approval authority has too wide a discretion in determining who is an 'other appropriately qualified person,' as the term is not defined and can be applied loosely.

For the fifth method of evidence, the MFB's opinion is that it is difficult to determine what 'other forms of documentary evidence' would be appropriate to satisfy this requirement, particularly in relation to issues such as combustible façades, where no appropriate testing is specified in the BCA.

As shown above, the method of providing evidence of suitability and the testing process required to demonstrate that a building product is not combustible and is "fit for the purpose for which it is intended" is complex and difficult to navigate even for expert practitioners. Gaps in the testing and certification process allow products to be certified or used without certification in inappropriate settings such as the Lacrosse building façade. The BCA requirements for evidence of suitability are not robust enough to ensure products satisfy the fit for purpose principle or the safety objectives of the BCA. As the MFB and other emergency management agencies are not actively involved in the testing process, they rely upon the BCA to ensure that fire safety objectives are being met through the testing of building products. Without the ability to rely on this process, the risks transferred to the MFB and other agencies increase significantly.

Product importation

The major risk to the MFB lies in the use of products in ways that do not comply with Australian Standards or the use of products where their application has not been considered in compliance testing. As a result, where importers seek to bring in products without independent accreditation of product certification that considers use or application, the MFB believes these products should not be imported. Independent verification and certification are critical to the proper functioning of the building approval and construction system. The MFB believes the appropriate point for this testing and enforcement to occur is before or at the point of importation.

Product Design

The MFB's view is that the design approval process should be more transparent and include the disclosure of testing information. A greater provision of information and access to that information will result in a better efficiency of operations across all stages of the MFB's responsibilities for planning, response, inspection and advice.

In the Lacrosse fire, it was unclear whether manufacturers or suppliers held responsibility for assessing product design. The product design documentation was vague and misleading, which lead to two problems. Firstly, it was virtually impossible to enforce compliance and determine responsibility. Secondly, assessment done solely on documentation and not through a physical inspection could not be relied upon. The MFB is also aware of inaccurate documentation and has found that these product design documentation concerns extend beyond combustible cladding to other products such as glass and electrical wires.

Enforcement and audit

The MFB is reliant on the audit and enforcement process to identify failures in the building regulation system. Similar to the issues in relation to design documentation, audit information is not transparent or easily accessible. Reports by the Victorian Auditor General and the Victorian Ombudsman have found that current audit and enforcement processes need to be more robust. Similar issues have been identified in other Australian jurisdictions. In this context, the failure of the audit system and enforcement of the regulations means the fire safety risks are passed to the MFB without appropriate acknowledgement, funding or resources.

The failure of enforcement and auditing is not limited to one product. The MFB has experience where non-compliant plaster boards, electrical wiring and most recently cladding have caused risk to life and property. As a result, the MFB's view is that penalties for failures in the audit and review process should be severe and reflect the substantial costs and risk transferred to the MFB and the community.

6. Conclusion

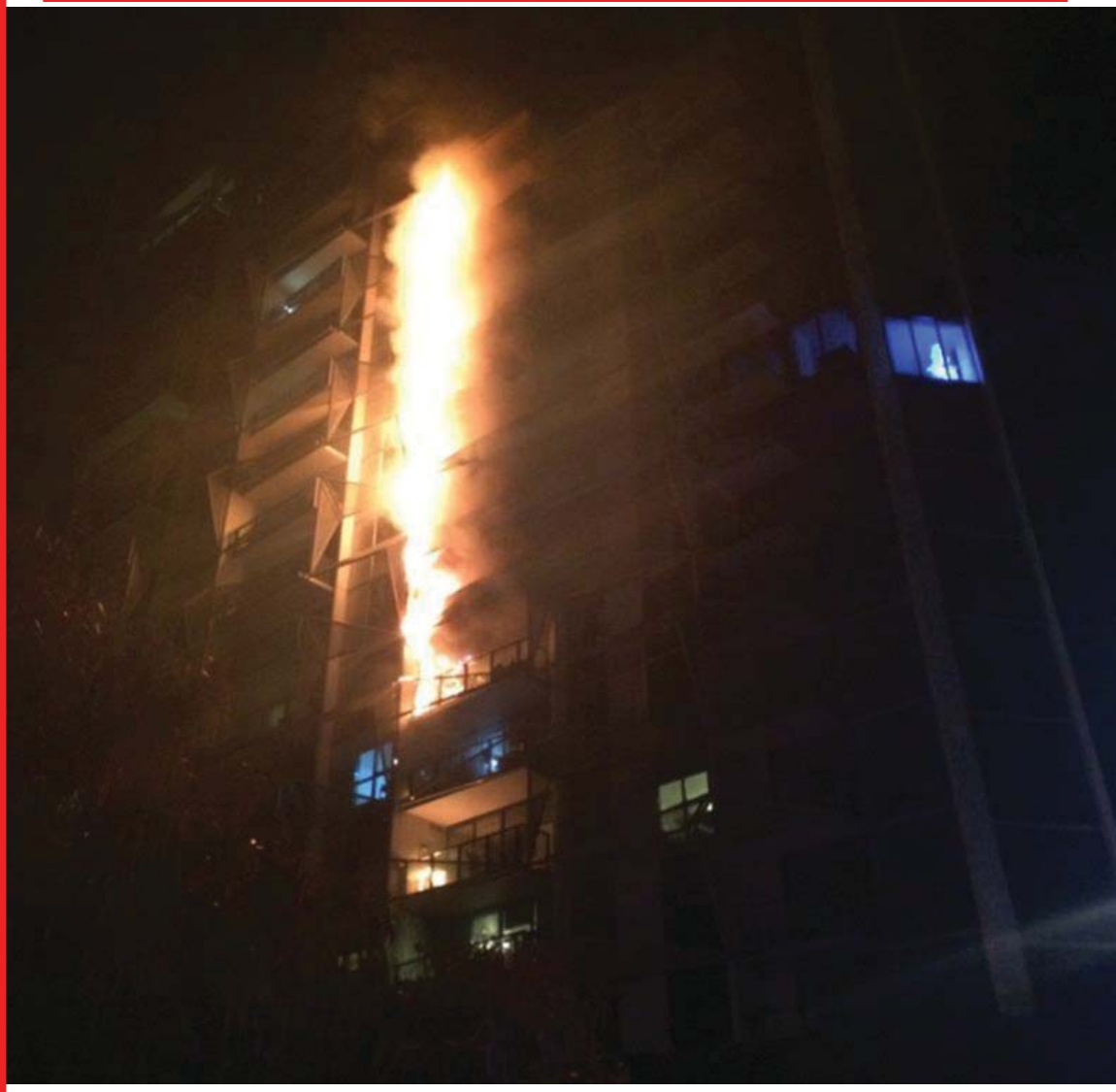
The MFB relies on the regulatory scheme to ensure that buildings comply with the fire-safety restrictions in the BCA. However, the use of a non-compliant building product in the Lacrosse fire is a clear example that the regulatory scheme has significant gaps that reduce building quality, increase costs and risks to the community and impact on the operations of a fire suppression and fire prevention agency like the MFB.

Ultimately, the MFB has no legislative role beyond raising these issues and responding to incidents as they arise. The MFB hopes to avoid a situation where it is forced to weigh its responsibility to ensure the workplace health and safety of its fire fighters against its operational objectives to preserve life, property and the environment. However, the unquantified risk of non-compliant combustible building products means that this situation may arise. The real economic and social impact of non-compliant building products is the risk of loss of life, a risk the MFB has legislative responsibility to reduce or prevent. The gaps in the building regulations mean this risk is substantially increased. The MFB urges the Senate to consider improvements to the current system so that this risk is reduced and the community is safer.

MFB
Protecting Our Community

Fire Safety

Post Incident Analysis Report



Lacrosse Docklands

673-675 La Trobe Street, Docklands
25 November 2014

"Reducing the incidence and impact of fire in the community"

MFB Burnley Complex
450 Burnley Street
Richmond VIC 3121

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Furthermore, it is not the intention of this report to pass judgement on, or fix liability for, the loss of property or the effects upon the occupants, following the fire.

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Post Incident Analysis Details

Point of Interest:	Rapid external fire spread in a high-rise apartment building resulting in a mass evacuation
Report No:	**1403134A**
Incident No:	**FC 141115657**
Date of Incident:	**25 November 2014**
Time:	**02:24**
Site/Building Name:	**Lacrosse Docklands**
Address:	**673-675 La Trobe Street**
Suburb:	**Docklands**
Municipality:	**Melbourne**
Building Use:	**Residential, Retail and Car Park**
BCA Classification:	**2, 6 7a**
Type of Construction:	Walls: **Masonry, concrete & Dry Wall** Floor: **Concrete** Roof: **Concrete and metal**
Storeys Contained:	**23**
Net Floor Area:	**21,600m^2**
Fire Sprinklers:	**Yes**
Alarm System:	**Hard wired smoke alarms** Mandatory: **Yes**
Smoke Detection:	**AS1670.1 (Addressable) and AS 3786 smoke alarms**
Fatalities:	**Nil**
Injuries:	**Nil**
Estimated Loss:	**$5,000,000.00 (estimate only)**
Number of Occupants:	**Approximately 400**
Supposed Cause:	**Discarded cigarette**
Area of Origin:	**Apartment 805 balcony, Level 8**

No. of Fire-fighters involved: **122**

EXECUTIVE SUMMARY

This Post Incident Analysis (PIA) provides a detailed account of the fire incident that occurred at the Lacrosse building on 25 November 2014.

It includes information compiled by MFB Fire Safety Officers investigating the sequence of fire events, the suitability of building materials used in construction, performance of installed fire safety equipment, evacuation of the building and fire causation.

The main observations are:

- External wall cladding (Alucobest) rapid fire spread.
- Use of combustible external wall cladding on Type A construction.
- Building material design, selection and installation.
- High occupancy rate.
- Mass evacuation necessary due to fire development and spread.
- Emergency Warning and Intercommunication System (EWIS) was compromised.
- Sprinkler system operated well beyond its designed capability.
- Sprinklers were not required on the balconies under the Building Codes of Australia (BCA).
- Maintenance Issues:
  - Fire extinguishers not accessible.
  - Apartment smoke alarms tampered with.

The PIA also includes a report from the Municipal Building Surveyor (MBS) addressing occupancy rates in Class 2 buildings and the product accreditation process. For the full MBS report see Appendix 1.

Fire Call 15657

At 02:24 hours on Tuesday morning 25 November 2014, MFB fire crews responded to an exchange call for a reported apartment fire at 673 - 675 La Trobe Street, Docklands.

When the first fire crews arrived on scene at 02:29 hours, they observed that the fire had already extended up the external walls and balconies over approximately 6 levels. At 02.35 hours, only 6 minutes later, crews reported back that fire had reached the roof of the building above the 21st floor.

The fire scenario and fire behaviour encountered by the attending MFB fire-fighters on that morning is not a scenario commonly encountered by MFB crew attending high-rise buildings. Rapid vertical fire spread up the building appeared to be directly associated with the external façade of the building, rather than associated with the internal parts or extensive fuel loads stored on many of the balconies.

Due to rapid fire spread and penetration into internal parts of the building over many levels, the entire building was evacuated resulting in more than four hundred evacuees assembling in La Trobe Street. It appears the rapid fire spread caused the EWIS to be compromised on most fire affected levels, preventing it from operating as designed on those levels. Fire crews were therefore forced to enter every level and alert occupants of each apartment to ensure total evacuation.

After the fire, it was observed that many apartments contained bedding arrangements indicating a higher occupancy level than what would normally be expected. This resulted in increased combustible fuel loads due to the greater amount of personal belongings. It was fortunate that the installed fire sprinkler system operated well above its designed capability preventing further internal spread.

The care and management of the displaced occupants also presented a challenge for the MFB due to the sheer number of people which needed to be sheltered and the time of the incident. Initially the evacuees were escorted from La Trobe Street to the Southern Cross Station bus centre. The MFB Incident Management Team (IMT) called for the response of the Municipal Emergency Response Officer (MERO) and the establishment of an Emergency Relief Centre (ERC). During the morning the ERC was set up at the Etihad Stadium and all evacuees were transferred to this location, as they would not be returning to their apartment for some time.

This was a multi-agency event involving, in addition to MFB, Victoria Police, Ambulance Victoria, State Emergency Service, Melbourne City Council, Department of Human Services, Red Cross, and Salvation Army. Our thanks to Etihad Stadium Management and Platinum Strata Complex Management for their assistance and support.

This was a rare and challenging fire incident for the MFB and one worthy of further investigation and enquiry into the contributory factors for the rapid fire spread. In the process of the investigation, the MFB gained valuable insight into the complexities associated with the adopted cladding material along with the performance of several fire safety measures. We anticipate that learning’s gained through this process will provide improved insight and understanding to designers, engineers and certifiers, for greater fire safety in future developments.

1. BUILDING USE AND DESCRIPTION

The existing building consists of a single residential tower (Eastern Tower) which was completed with an occupancy permit issued in June 2012. The premise is located adjacent to Wurundjeri Way to the east and La Trobe Street to the north.

The functional use of the existing building includes: Class 2 Residential Apartments; Class 6 Restaurants/Retail and Class 7a Ancillary Car-parking.

The building has a rise in storeys of 21 and contains 23 storeys total, with an effective building height of 58.7 metres.

The general structure of the building comprises suspended reinforced concrete floor slabs and reinforced concrete loadbearing walls. Panel wall systems have been used for external cladding and also include lightweight internal wall systems.

The overall site currently has the Eastern Tower completed under Stage One of the development. The Western Tower (Stage Two) is currently under construction. Both towers will have common interface arrangements at the lower podium commercial and car-park levels.

Floor function and use:

- Basement Level L00 – Plant, loading, ancillary services
- Level L01 – Entry, car parking, retail
- Level L02 – Entry, offices, retail
- Level L03 – Entry, retail, offices, fitness centre and swimming pool, residential apartments
- Levels L04 to L22 – Eastern Tower residential apartments
- Proposed West Tower levels L04 to L18 - hotel guest rooms.

The Egress Layout:

- Level L00 – direct to road and also via car-park entry/exit ramp
- Level L05 – via vehicular ramp and stairway leading to L00
- Level L01 – via path leading to stadium concourse and also stairway
- Level L02 – main entry level circulation path connecting road and stadium concourse
- Level L03 to L21 – minimum two stairwells.

Approximate Floor Area:

- Level L00 – 3600m2
- Level L05 – 3200m2
- Level L01 – 3600m2
- Level L02 – 1800m2
- Level L03 – 2500m2
- Level L04 to L21 – 1200m2.

2. INSTALLED FIRE SAFETY EQUIPMENT

The installed fire safety systems within the building as listed below are typical of those found in other Melbourne buildings of similar size, age and occupancy type:

- Fire sprinkler system
- Internal fire hydrant system
- Fire hydrant/sprinkler pumps
- Fire hydrant/sprinkler boosters
- Emergency lighting
- Emergency exit signage
- Fire isolated exit stairs
- Fire hose reels (omitted on residential levels)
- Fire extinguishers
- Stair pressurisation system
- EWIS (with floor by floor PA facility)
- Fire-fighter jacking points
- Fire/smoke detection, Australian Standard (AS) AS1670.1
- AS3786 smoke alarms
- Fire hydrant and sprinkler system.

This building has two separate types of fire sprinkler systems installed. Further detail is provided in Appendix 8.

The combined hydrant/sprinkler system that runs throughout the fire affected floors is designed for four sprinkler heads and two fire hydrants to operate simultaneously. Two onsite fire pumps provide pressure and flow to the system and water is pumped directly off the town's mains in a Grade two configuration. There was evidence that both pumps had been running during the fire.

The fire caused 26 sprinkler heads to activate. Two fire hydrants were also used; however, it was undetermined whether both fire hydrants were used simultaneously.

Despite the demand on the system running well over its designed capabilities, all witness reports and subsequent investigations, suggest the sprinkler system performed exceptionally well. Of the sixteen levels that were affected by the fire, there were only two instances where fire-fighters had to use hose lines from the internal fire hydrants. This was to combat a larger fire inside Apartments 1005 and 1905. Fire-fighters identified that in these two instances the sprinklers were containing the fire from spreading deeper into the apartment.

The first sprinkler flow switch that activated was Level 8; this was 94 seconds after the first smoke detector activated. It was identified that in many instances both the sprinkler head inside the apartment's kitchen/meals area, and the sprinkler head inside bedroom 2 of the same apartment, activated. This is identified in a floor plan provided in Figure 1. Additionally, Appendix 9 identifies the sequence of sprinkler activation over a floor by floor basis.

Emergency Lighting, Emergency Exit Signage and Emergency Exits

This building is provided with emergency lighting, emergency exit signage and emergency exits as required by the Building Code of Australia (BCA). Each apartment level is served by two fire isolated stairs that discharge into the main lobby at Level 2. The fire isolated stairs on the apartment levels are accessible from within the apartment corridor. Break glass re-entry is available every fourth level from within the fire isolated stair. Upon activation of the general fire alarm, electronic locks disengage and allow access out of the fire isolated stair at all levels. It appears that the electronic lock on Level 9 failed to disengage. This resulted in fire-fighters having to make forcible entry into the corridor.

From all other witness accounts it appears that the exits were easy to locate, lighting was adequate and descending the stairs was relatively easy and uncongested. Between three and six occupants presented themselves to Ambulance Victoria Officers for treatment for minor injuries, caused by slips and trips within the stair. This figure is very minor, considering that in excess of 400 occupants safely exited the building.

Fire Extinguishers and Fire Hose Reels

This building is not provided with fire hose reels on residential levels. The deletion of fire hose reels had been previously addressed under a Report and Consent of the Chief Officer pursuant to Regulation 309 of the Victorian Building Regulations 2006.

In lieu of fire hose reels each apartment level has 2 x 9 litre water type extinguishers installed and a 2.1 kilogram dry chemical powder extinguisher. One water extinguisher is located down the northern corridor in a purpose built cupboard outside Apartment 601. The second water extinguisher is located down the southern corridor in a purpose built cupboard outside Apartment 613. The dry chemical powder extinguisher is located in the service/electrical riser room in the lift lobby area.

There is no record of any occupant using an extinguisher, however numerous on-site extinguishers were used by fire-fighters to extinguish some of the smaller balcony fires. Investigations identified a number of building maintenance issues relating to the installed fire extinguishers. This issue is discussed in Section 6.9.1 of this report.

Stair Pressurisation System

Both fire isolated stairs in this building are served by required stair pressurisation systems. The fire indicator panel (FIP) log identifies that a fan start up signal was sent to the fans in both stairs immediately after the first smoke detector activated. The log then identifies that both systems sent a running confirmation signal back to the FIP. There were no reports of smoke within either stairwell.

Fire Detection System/Fire Indicator Panel

This building incorporates a smoke detection system throughout the common areas as required by the BCA. During investigations, it was observed that a typical apartment level consisted of eight photo-optical smoke detectors, installed throughout the corridor and an additional smoke detector located in the electrical riser cupboards at every level.

According to the printout from the FIP, the first detector to activate was outside Apartment 805 (apartment of fire origin). It is likely this detector activated when smoke entered the corridor as the occupants evacuated their apartment.

In total, 13 smoke detectors activated throughout levels 3, 6, 8, 9, 12 and 18. The FIP printout indicated that 25 minutes after the initial detector activated, the system started to log detector faults. Over 55 faults were logged, all of which are likely to be attributed to water damage from the operating sprinkler system.

From all the evidence the detection system operated as designed.

Smoke Alarms AS3786

Each apartment is fitted with a 240 volt hard wired ionisation smoke alarm, with a 9 volt backup battery. These smoke alarms are not linked to the FIP and are not required to be.

The occupants of Apartment 805 reported that they opened the door to the balcony to attempt to extinguish the fire. As a result, smoke entered the internal space of the apartment and activated their alarm.

Emergency Warning and Intercommunication System

This building is fitted with an Emergency Warning and Intercommunication System (EWIS), as required by the BCA. The EWIS in this building incorporates the following design features.

A EWIS operations panel is installed adjacent to the FIP in the Fire Control Room. This panel incorporates a public address facility, which enables the panel operator to choose which levels receive an audible announcement. The system is separated into 21 evacuation zones; each level is a single zone.

Speakers (incorporating sounders/audio alert signals) are installed in all common areas throughout the building, with additional speakers installed in every apartment bedroom as per requirements of the approved Fire Engineering Report.

Operation

The fire alarm tones in the building were configured in a cascading sequence. Initial evacuation tones sound on the fire floor in addition to one level above and one level below the fire floor (these three levels are referred to as Segment 1 of the cascading sequence).

After a 60 second delay the system initiates evacuation on the next level above Segment 1. This upward cascading sequence continues with a 60 second delay on each level until the uppermost level is reached (those levels above Segment 1 are referred to as Segment 2).

Sixty seconds after the system initiates evacuation on the uppermost level of the building, the system then initiates evacuation on the first level below Segment 1. The system then continues to cascade down to the lowest level in the building with a 60 second delay occurring at each level.

Each level is served by a single speaker wiring loop wired in series. This means that a single wire runs from the amplifier which serves each level, to the first speaker. A wire then runs to the second speaker and so on. At the final speaker the wire returns to the amplifier to complete the circuit. Appendix 5 and Appendix 6 provides an illustration to further explain the above.

3. FIRE INCIDENT EVENTS

The following information was compiled after MFB fire safety officers interviewed a number of fire-fighters and occupants who were present during the incident. It includes reference to the MFB fire call log and the fire indicated panel (FIP) events log which can be viewed in Appendix 2 of this report.

The Bureau of Meteorology (BoM) records indicate that the temperature during the night was around 12 degrees, with a westerly wind of 20 to 30 kilometres per hour.

At approximately 01:30 hours on the morning of Tuesday 25 November 2014, an occupant from Apartment 805 of the building, claims he investigated the smell of smoke. After checking the kitchen and making sure the gas stove was turned off, he returned to bed. Sometime later, the same occupant was woken by two other house mates who had discovered the fire burning on the balcony.

From inside the apartment, he could see a fire on the right hand side (south) of the balcony. The occupants of the apartment unsuccessfully attempted to extinguish the fire using a container of water.

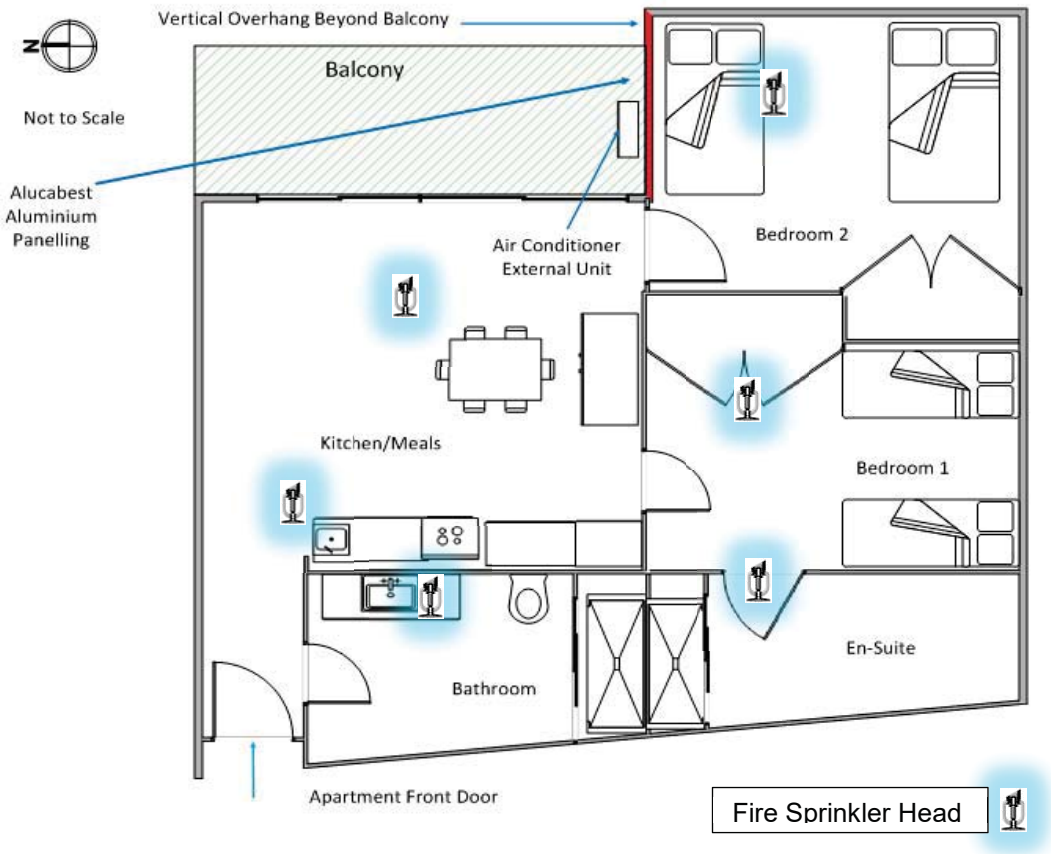

Figure 1 – General floor layout of apartment 805

All of the occupants from Apartment 805 then evacuated the apartment via the buildings northern end isolated fire stairs.

At 02:24 hours, MFB fire crew responded to an exchange call for a reported apartment fire at 673 La Trobe Street, Docklands.

The fire indicator panel history log shows activation of the Level 8 fire sprinkler flow switch at 02:25 hours, which also generated an alarm to the MFB. Several exchange calls followed confirming that the building was well alight and the fire was spreading rapidly up the building. Refer to call history Appendix 2.

When the first fire crew arrived on scene at 02:29 hours, they observed fire travelling upwards rapidly and involving about six floors. They also observed that the fire was burning up the external wall cladding and spreading onto the balcony on each level. By this time a number of people had already evacuated and had congregated outside the building entry in La Trobe Street.

The occupants from Level 6, Apartment 605 reported later to fire-fighters, seeing fire embers and flaming debris falling from levels above their apartment and igniting materials on their balcony. They then evacuated the building. See photograph below.

Figure 2 – Shows fire on level 6 and fire on level 8 (point of origin) extending up to level 14 (02:29)

At 02:30 hours, the Senior MFB Officer in attendance provided the following word back; “Structure Fire, Respond 3rd Alarm”. This was followed by a message that crew wearing breathing apparatus and equipped with hose lines were entering the building to evacuate all occupants and investigate the extent of fire spread. By 02:35 hours, it was reported that the fire had spread to Level 21 via the external face of the building. At 02:38 hours, the status of the alarm was upgraded to a 4th alarm.

Fire-fighters confirmed that the sprinkler system operating within the apartments had held the fire in check, and was preventing further internal spread and fire development. Fire-crew used hose lines connected to internal hydrants and portable fire extinguishers to totally extinguish fires on Levels 10 and 19.

An MFB aerial appliance referred to as a “Ladder Platform” was set up on the La Trobe Street overpass and at approximately 02:46 hours, was operational and had water onto the fire. The water stream from the water monitor on this appliance was able to reach all levels on the building, making extinguishment of the burning façade more efficient.

With several hundred civilians from the building assembling on the north side of La Trobe Street, MFB Officers arranged their evacuation to a sheltered area at Southern Cross Station. At approximately 03:45 hours, MFB fire-fighters assisted by Victoria Police and the SES, escorted the evacuees to the Vic-Rail Bus Centre, Spencer Street where they were monitored by Ambulance Victoria and provided with water and blankets. Registration of evacuees was undertaken with the assistance of the Red Cross. Later that morning Victoria Police and Melbourne City Council established a Relief Centre at Etihad Stadium where the Salvation Army was set up to assist.

At the height of the fire, MFB committed 122 personnel, 22 appliances, 3 aerial appliances and 4 specialist vehicles.

Fire damage was essentially restricted to the façade and external balcony area adjacent to Apartment 605 and Apartments 805 to 2105. Please refer to the Fire Cause and Origin section of this report for further information on fire damage.

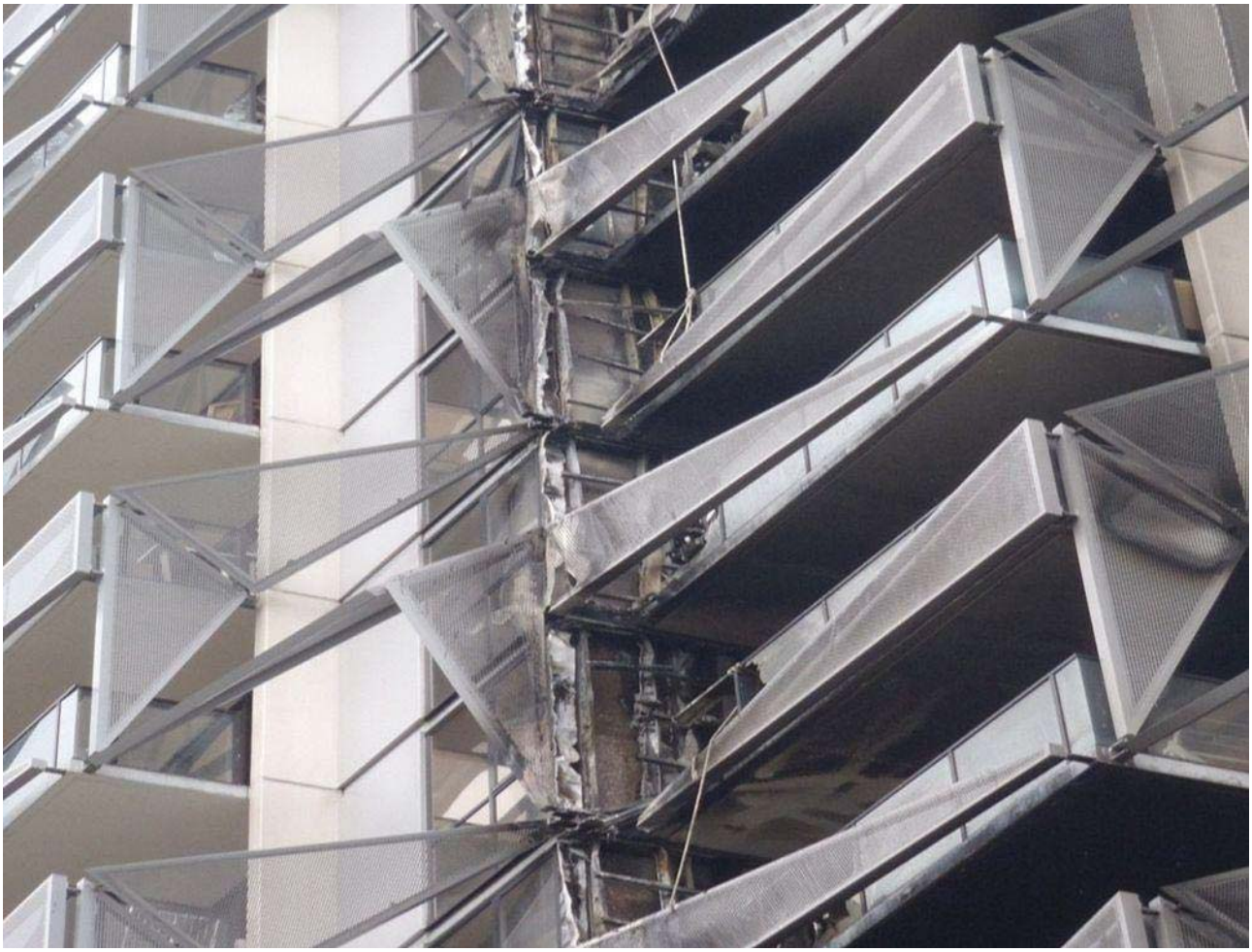

Figure 3 - Fire damage to the external wall cladding and ornamental structures

4. FIRE CAUSE AND ORIGIN

The following information is a direct reference from the Fire Investigation and Analysis report (FIA). Where this report refers to an Appendix, see full FIA report.

AREA OF ORIGIN:

Apartment 805 Layout

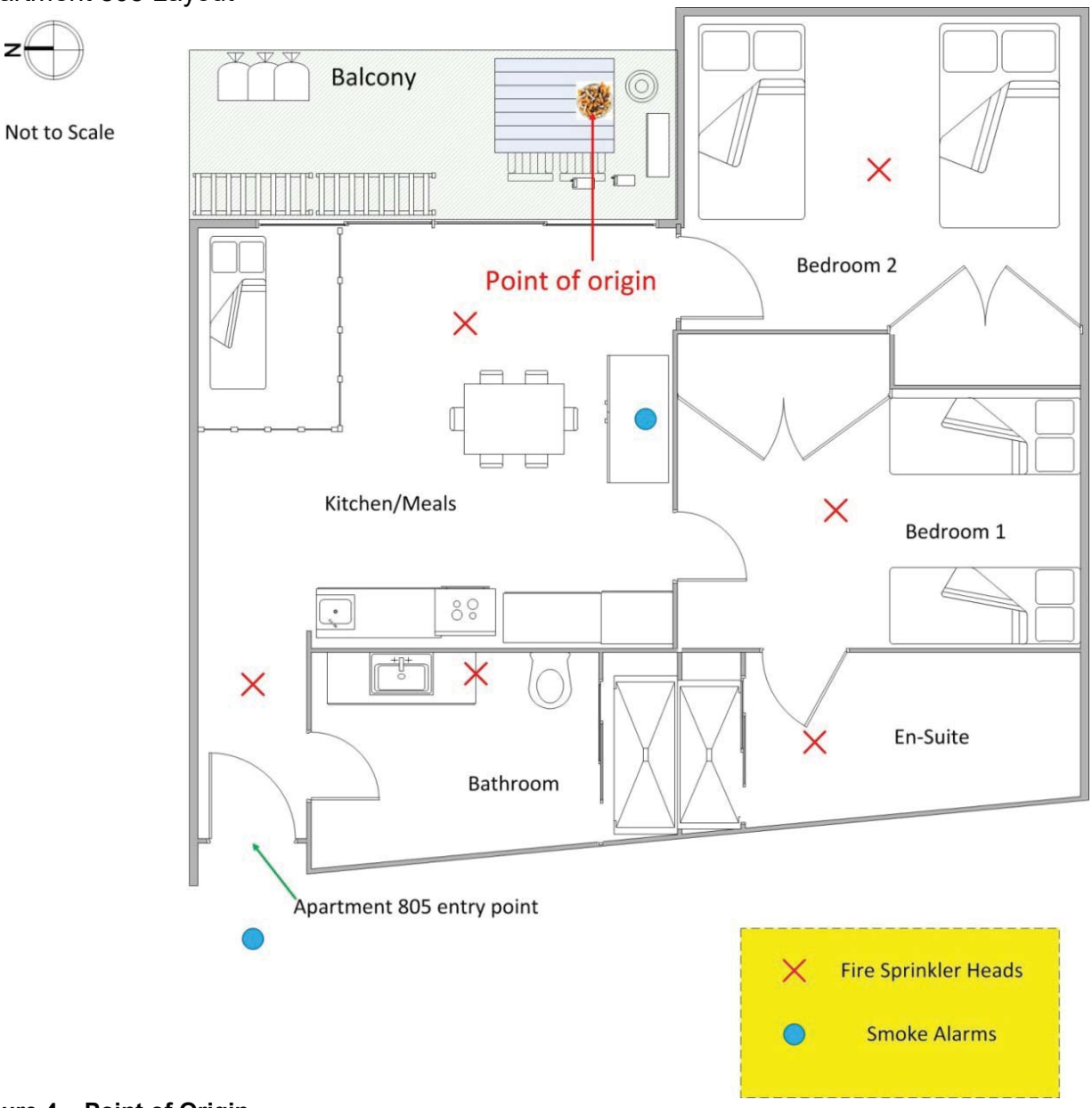

Figure 4 – Point of Origin

Appliances in the area of origin:

- Compressor unit for split system air conditioner
- 2 x vacuum cleaners
- External wall mounted light located centrally above air conditioning (A/C) split system compressor unit.

Other contents in the area of origin:

- Timber and metal outdoor table
- Plastic and metal outdoor chairs
- Steel bed frame parts, Bedding (pillows and doonas)
- Clothes
- Brooms
- Clothes drying racks
- Timber door and other miscellaneous stored items.

Description of area of origin and details of burn patterns and charring:

Fire damage to the balcony area of this floor was more severe and a greater degree of destruction had occurred on this level than the balcony area of Apartment 605.

Fire damage to this apartment occurred to the balcony area with severe water damage, due to the activation of the fire service sprinkler system to the remainder of the apartment. Moderate sooting from the fire had occurred to the ceiling of the kitchen/meals area within the apartment near the glass doors to the balcony area.

Bedroom 2 of the apartment had sustained water damage to the entire room area; the northern wall of this room backed onto the southern wall of the balcony area. Minor sooting to the room and contents was evident throughout this room. Electrical outlets mounted to this wall had sustained heat damage to the back of them. The wall mounted electrical power outlet and the television aerial connection had fallen from where they had been mounted on the plaster wall.

The construction of this wall from the inside to outside was two layers of plaster, steel studs with fibre glass insulation between, sisalation, steel battens and an exterior aluminium cladding (Alucobest). This wall also contained a sealed vertical join between two Alucobest panels of the wall, near the eastern end of the A/C unit. Located within the wall cavity were a number of services for the building; they included a PVC down pipe allowing water drainage from the balcony area, wrapped in what appeared to be a rubber backed green egg carton type foam, electrical wiring, copper pipes and grey foam lagging for the A/C and electrical wiring for exterior light on the balcony wall.

Full height glass double glazed sliding doors gave access to the balcony area from the kitchen. These had sustained heat and fire damage with the glass from the fixed panel located at the southern end of the balcony, breaking and collapsing to the floor areas of the kitchen and balcony. At the time of the investigation the double sliding doors were in the open position, with a visible gap of approximately 50mm between the two sliding doors. Access for investigation purposes was gained through the broken fixed panel at the southern end of the balcony area.

Figure 5 – Picture 4: Inside kitchen looking towards double glass sliding doors leading to balcony area & bedroom 2.

Items located at the northern end of the balcony included washing on clothes drying racks against the glass sliding doors and plastic garbage bags of clothing against the balcony balustrade. These items had sustained heat damage to the southern face indicating a fire at the southern end of the balcony. Fire damage to the balcony area and items located on it increased in severity from the central area to the southern end wall of the balcony.

Fire damage to the southern wall was severe with consumption of almost the entire aluminium wall cladding (Alucobest). A 'V' pattern to this wall emanated from floor level of the balcony across the entire width. A small section of vertical wall, approximately 400mm protruded past the balcony balustrade allowing the fire to progress upwards to the balcony above. The section of aluminium cladding that remained outside the balcony created a 'V' pattern emanating from the balcony of this apartment.

Examination of the wall components revealed severe distortion to the steel frame and consumption of combustible components located in the wall. Severe burning to the back of the plaster had occurred with cracks and breaking down of the plaster's stability occurring. Intense burning had occurred in the area of the PVC downpipe, which had been consumed between the tiled floor and the concrete ceiling of the balcony. Prior to the fire, an exterior light had been mounted to the wall above the A/C unit. Although no remains of this light were located in the fire debris, burn patterns around the approximate mounting position on the wall do not suggest this light to be the point of origin for the fire.

The extremely vertical nature of the burn patterns to the exterior face of the wall suggest that the Alucobest aluminium cladding, along with the foam lagging and the PVC pipe of the building wall, contributed to the fire load and the rapid spread of the fire up the vertical face of the building to the floors and balcony areas located above.

Figure 6 - Picture 5: South Wall Balcony of Apartment 805 before excavation.

Located in front of the southern wall, were the remains of a split system air conditioner compressor unit. Fire damage to the A/C unit was more severe to the eastern end towards the balustrade. This section of the unit had been severely damaged by fire with all plastic components being consumed.

A 'V' pattern on the A/C unit emanating from floor level and extended onto the unit approximately 150mm at the eastern end could be seen. Fire damage to the A/C unit was severe, the copper pipes and aluminium fins in the unit had been severely affected by the heat of the fire. The copper pipes and aluminium fins located at the eastern end of the unit had collapsed or were very brittle and broke away when examined.

Investigation of the electrical wiring located within this area revealed no signs of electrical arcing. At the time of the investigation the power supply for the A/C unit was in the off position at the circuit breaker, located inside the front door on the switch board for the apartment. This A/C unit was also removed for examination by Energy Safe Victoria (ESV) and the subsequent report ruled this out as being the ignition source for the fire (see attached ESV Report on A/C unit, Appendix 2). Further investigation of fire debris on top of the A/C unit revealed the remains of burnt cardboard, when turned over these remains revealed a corrugated pattern to the underside.

Further investigation of the balcony area in front of the A/C unit revealed the remains of charred timber sections. These sections appeared to have been from the timber top of the outdoor table. They were severely charred from both sides and broke apart when touched or moved. The steel frame of the table was standing and positioned above these charred remains and within close proximity to the A/C unit.

Located between the balustrade and the A/C unit, at the southern end of the balcony, were the remains of a wire basket. This basket was approximately 600mm high with a larger circle (approximately 450mm in diameter) at the top and a smaller circle at the base (approximately 300mm in diameter). The remains of severely fire affected items were located at the base and appeared to be of a plastic or rubber material.

Located in the fire debris to the north of the A/C unit and close to the fixed double glazed door, were the remains of two vacuum cleaners that had been severely affected by fire; these were not plugged into any power outlet at the time of the fire. The remains of one vacuum cleaner located closer to the A/C unit had all plastic components consumed in the fire, leaving the steel components of the motor in situ as one piece. The second vacuum cleaner located approximately 200mm to the north of the first one and at the back of the southern chair, also had all of the plastic components consumed; however the steel motor had collapsed and was clearly visible in two sections.

Approximately 200mm from the balustrade and approximately 400mm from the front of the A/C unit, were the remains of burnt material on the balcony tiles. Heat affected and sooted glass from the balustrade had broken and fallen down on top of this burnt material and the surrounding area of the balcony. Located in these remains and under the glass were sections of charred timber from the outdoor table top. This timber section had sustained charring to both sides indicating burning from below and above.

Further towards the north between the second and third uprights of the balcony, was a coffee cup. It was located at the northern end of the metal outdoor table frame close to the balcony balustrade with broken glass and other fire debris around it.

POINT OF ORIGIN:

Description of point of origin and details of burn patterns and charring, and ignition sources at point of origin.

Positioned on the balcony approximately 200mm to the north of the A/C unit and the wire basket, were the remains of an outdoor setting with two steel framed plastic chairs and a steel framed timber slatted table. The two chairs were positioned in a north south line along the balcony and had sustained severe damage by the fire. The chair located further from the A/C unit had fire affected remains of the plastic chair still attached to it. The chair positioned closer to the A/C unit had no visible plastic remains evident. Across the back of the steel frames of the chairs was a burn pattern that was lower to floor level towards the A/C unit.

Fire damage to the outdoor table consisted of distortion to the steel frame of the table and fire damage of the timber slatted top. Fire damage to the table frame was more severe at the southern end. The remains of the timber table top were located in, an almost vertical position against, the northern end of the steel table frame. This timber top had sustained severe fire damage to the south west corner which had been consumed in the fire.

Further investigation of the remains of the timber table top revealed charring to the underside, which was more severe adjoining the consumed section. A burn pattern to the south west corner of the table top revealed charring to the top of the timber table, remains that appeared circular in shape. This burnt circular shape had what appeared to be the remains of a white plastic attached to the timber around it. Burning to these edges formed a ‘V’ pattern indicating a fire burning from the top downwards.

Further examination found fire debris on the floor of the balcony area, close to the first vertical upright of the balustrade; approximately 1 metre from the southern wall of the balcony revealed a number of fire affected cigarette butts. Some of these butts had been severely affected by fire, with minimal amounts of the filter section remaining and being burnt through, indicating prolonged or severe exposure to the fire.

Also located in the fire debris in this area, were the remains of matches that had been burnt. The match and some of the cigarette butts were located on top of the remains of a white plastic material. These white remains appeared to be from a plastic container and were located on the tiles of the balcony floor, with other fire affected debris around them and the fire affected glass from the balustrading on-top of them. This glass had sustained sooting to it and had been affected by the heat from the fire.

The examination of these layers indicated that the cigarette butts, the white plastic and the timber from the table top had been involved in the fire prior to the glass balustrade breaking in the early stages of the fire.

CONCLUSION

With the above information and the exclusion of all other ignition sources, I conclude this fire was started by a cigarette butt disposed of in a plastic container located on the top of a timber topped outdoor table, positioned towards the southern end of Apartment 805 balcony.

The fire on the table has developed from the plastic container and extended to involve the timber table. The timber from the table top and the plastic from the container have caught combustible material located nearby alight, including the A/C unit and cardboard on top of the A/C unit.

This developing fire has impinged onto the Alucobest facade of the wall and the join between the two panels fixed to the wall. The Alucobest panels and combustible material located within the wall structure has added to a rapidly spreading fire up the vertical wall and involving the balconies located above. During the developing fire on Level 8, embers and fire residue has fallen onto the balcony area of Apartment 605 which has started a fire around the A/C compressor unit.

I classify this fire as Accidental.

5. BUILDING CONSTRUCTION ASSESSMENT

Balcony and External Wall Construction and Characteristics

The apartments known as Apartments 605 to 2105 are located in vertical alignment from the 6th floor to the 21st floor on the east façade of the building. They include suspended concrete balconies of approximately 1.8 metres deep x 4.7 metres wide. A double-glazed sliding door assembly is fitted in the external wall of the building and provides access to the balcony.

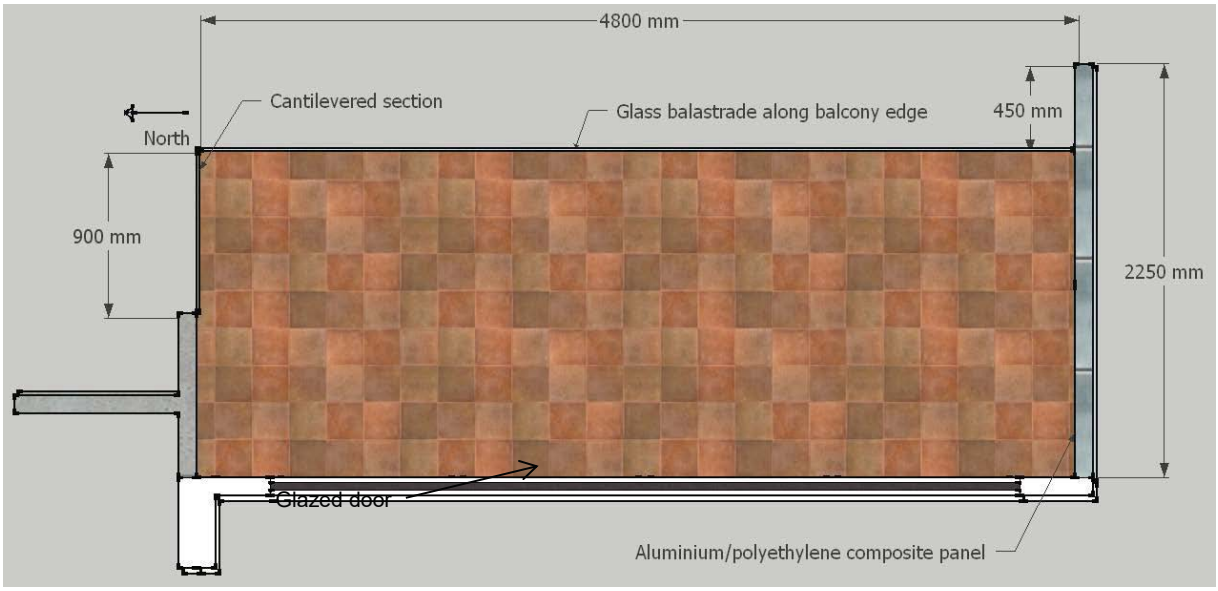

Figure 7 - Balcony Plan view

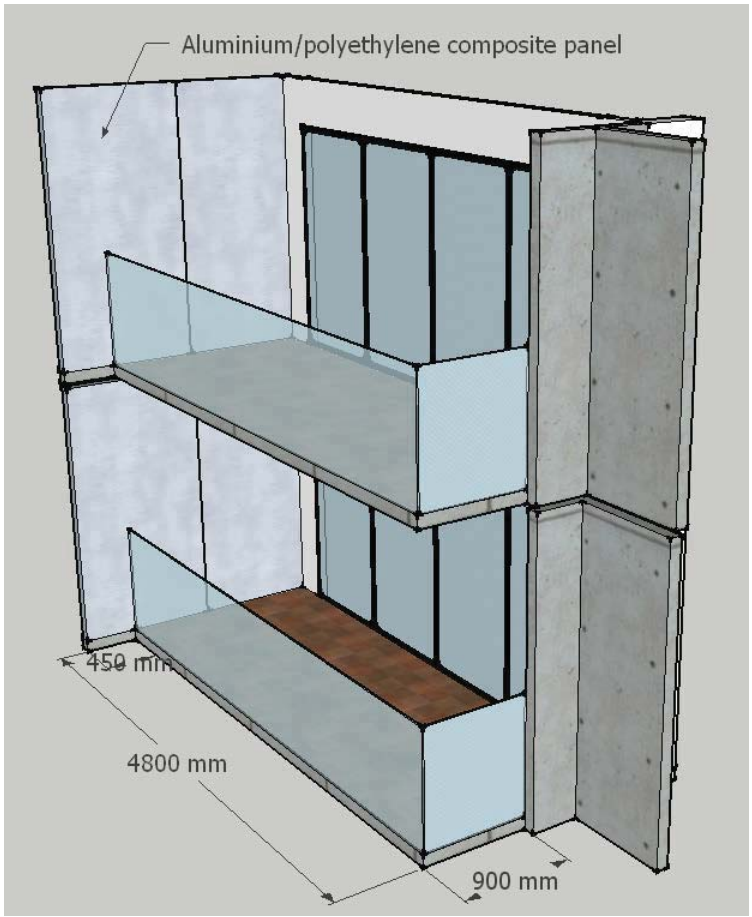

Figure 8 - Simplistic 3D interpretation of the balcony layout

The northern end of these balconies are bounded by 900mm concrete panels, which leaves the remaining 900mm balcony depth cantilevering out beyond the building face. A 1 metre high glazed balustrade is fitted to the remaining northern edge of the balconies and returns along the length of the eastern edge and butts into the southern wall.

In contrast to the northern end of these balconies, the walls at the southern end of the balconies extend out approximately 2.25 metres and some 450mm from the external face of the balconies.

These walls are built of lightweight steel stud construction. The internal face of the walls are lined with two layers of 13mm standard grade gypsum plasterboard, contain insulation batts, along with a combustible PVC stormwater downpipe and several combustible electrical/ television cabling and input face plates. The external face is lined with a 4mm aluminium/ polyethylene composite panel façade containing a polyethylene core.

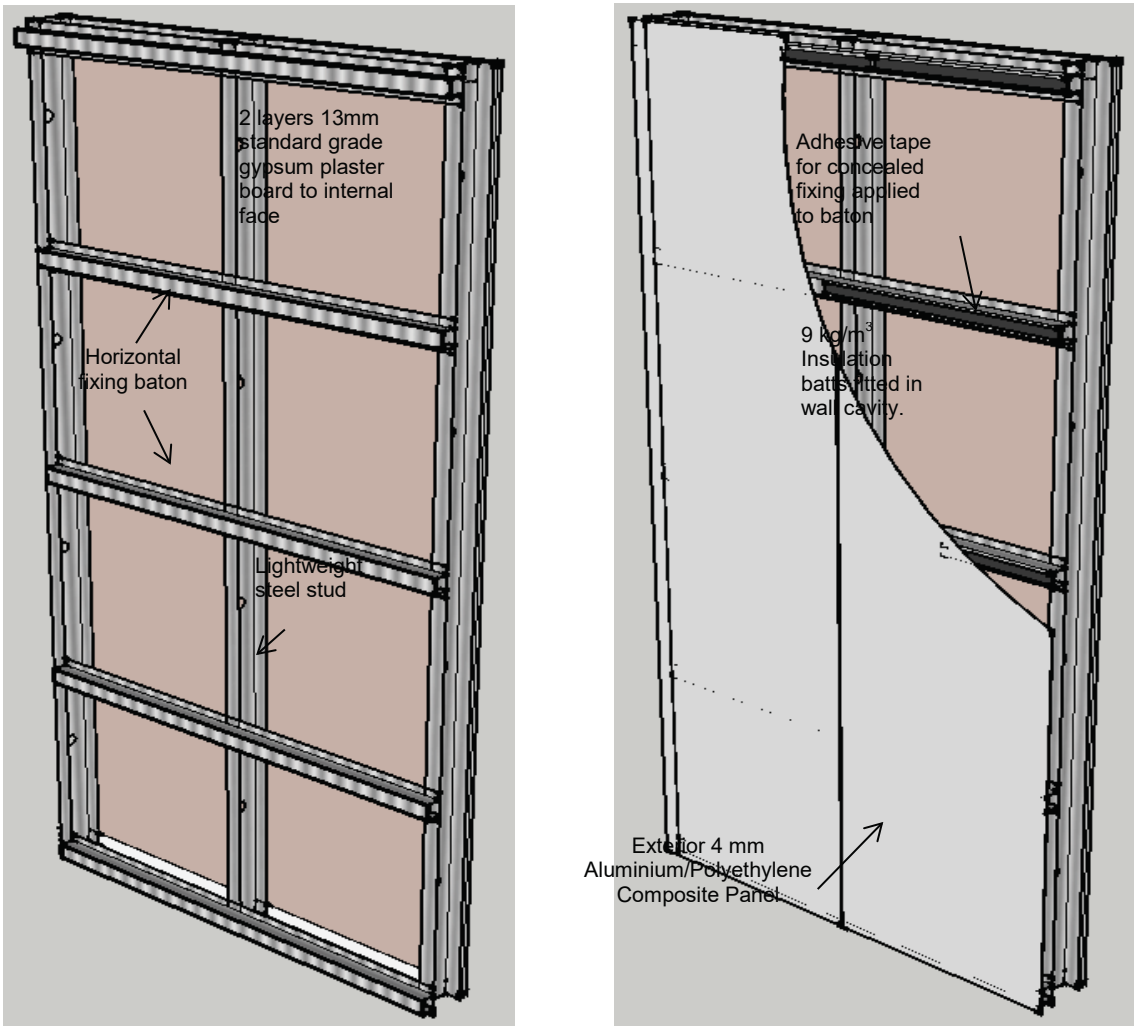

Figure 9 - Aluminium/Polyethylene Composite Panel Façade - External Wall Cladding

MFB Fire Investigators removed a large sample of the aluminium/polyethylene composite panel façade, fitted to the southern end of the balconies, for further investigation. The removed section of panel contained manufacturer labelling and serial identification on the internal face indicating the following:

'ALUCOBEST 11060167 HY 103 4mm 2011/06/17 20:51:45'.

To the best of the MFB's knowledge, the labelling indicates an aluminium/polyethylene composite panel of 4mm thickness, in a colour known as Champagne Silver (*HY 103*). It is unclear what the value *11060167* represents, however, the number does loosely appear to correspond with the date and time shown at the end of the label and may indicate the number of manufacturing runs of this colour and type for the month. It is assumed this panel is the standard grade Alucobest panel, as there is nothing to indicate otherwise. The product is believed to incorporate a Polyethylene core material.

The Alucobest Technical Manual provided on the web link at www.alucobest.com, indicates that it is a product manufactured by a China based company titled Shanghai Huayuan New Composite Materials Co. Ltd. The MFB reasonably believes this to be the product installed to the southern end of the balconies of Rooms 605 – 2105 and is likely to be the same product installed throughout the remainder of the façade of the building.

Alucobest Aluminium/Polyethylene Composite Panel – Fire Behaviour Properties

As mentioned above, it is assumed the Alucobest panel taken from the Lacrosse building is the standard grade, and not the '*Fire Resistant'* model, detailed on the Alucobest Technical Manual. All references made to the '*Fire Resistant'* range is referred to as Alucobest *FR*. The sample of panel does not include manufacturer labelling to indicate the sample is from the Alucobest *FR* range.

There is no discussion or reference made to fire behaviour tests of the standard grade Alucobest aluminium/polyethylene composite panel in the available Alucobest technical manual. It appears that this product has not been tested in accordance with AS1530.1:1994 - *Combustibility Test for Materials*.

Alucobest FR is detailed in the technical manual to have been subjected to a number of international fire behaviour tests, including ASTM-84 etc. Alucobest FR, however, does not appear to have been tested in accordance with AS1530.1, and does not meet the characteristic requirements of C1.12 of the BCA. Therefore, like standard grade Alucobest, it cannot be considered non-combustible for the purpose of assessment under the BCA.

Testing of Alucobest to 1530.1

The MFB forwarded a sample of the 'Alucobest' aluminium/polyethylene composite panel taken directly from the façade of the Lacrosse building to the CSIRO test facility in North Ryde NSW, for indicative testing in accordance with AS 1530.1:1994 - *Combustibility Test for Materials.* The MFB financed the test, to clarify if the product was combustible under the criteria definition documented in the test procedure and adopted by the BCA with its definition of combustible. This was necessary due to the vagaries and lack of available reliable material specification and technical information.

A material is considered combustible under clause 3.4 of AS 1530.1 under any of the following circumstances:

(a) The mean duration of sustained flaming, as (omission), is other than zero seconds.

(b) The mean furnace thermocouple temperature rise, (omission), exceeds 50°C.

(c) The mean specimen surface thermocouple temperature rise, (omission), exceeds 50°C.

On April 1, 2015 the CSIRO determined the following indicative test outcomes:

> *'**Observations**: Sustained flaming was observed on the specimen at 55 seconds into the test. The test was terminated at 93 seconds due to excessive flaming and smoking.*
>
> ***Designation**: The material is deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1:1994.'*

In considering the above, the following must be noted:

- **Only one sample was tested in lieu of the required five samples and for duration of less than 60 seconds, in lieu of the required 30 minute test duration. This was due to sustained flaming to the test specimen prior to 60 seconds, causing clear failure with the criteria detailed in item (a) above and therefore test failure. The test was terminated to prevent damage to the CSIRO test equipment. Due to test termination, CSIRO are unable to provide calculation for criteria (b) and (c) above.**

- ***AS 1530.1:1994* states that test results demonstrate the specimen's behaviour under the test procedure conditions only and are not intended as the sole measure for determining the extent of fire hazard that the product/material may or may not represent when installed. Additionally, the test is limited to materials other than *'coated, faced or laminated products'* due to difficulties associated with defining appropriate test sample specifications for these types of products, due to their often unique composition. The standard states *'The performance of coated, faced or laminated products may be determined by other reaction to fire tests'*.**

Importantly, the MFB is not aware of any competitor aluminium/polyethylene panel product which has been successful in being determined as non-combustible when tested under AS1530.1: 1994 - *Combustibility Test for Materials.* As mentioned elsewhere in this report, many competitor products have however gained a Certificate of Conformity for their use under the ABCB – CodeMark Scheme based on alternative test results. The CodeMark scheme provides Certificates of Conformity which can be used as evidence to demonstrate that the properties and performance of a building material achieves compliance with specific requirements of the BCA.

For the CSIRO test report see Appendix 3, see the following page for photos.

Specimen photos before, during and after the test.

6. ISSUES

Following the fire, investigators from the MFB's Fire Investigation and Analysis unit together with the MFB's Building Practitioner and Fire Safety Officer's conducted an inspection of the building. During that inspection, issues were identified relating to fire safety which could pose a threat to occupants and assist in the spread of fire.

6.1. External Wall Cladding (Alucobest) Rapid fire spread

MFB Comment:

First-hand accounts from attending MFB fire-fighters and residents of the building, describe the fire as appearing to be associated directly with the façade of the building rather than the combustible contents and storage on the external balconies. Burning and flaming facades on high-rise buildings is not a common phenomenon witnessed by the MFB and is of genuine concern. Of even greater concern is the speed and intensity of the fire spread.

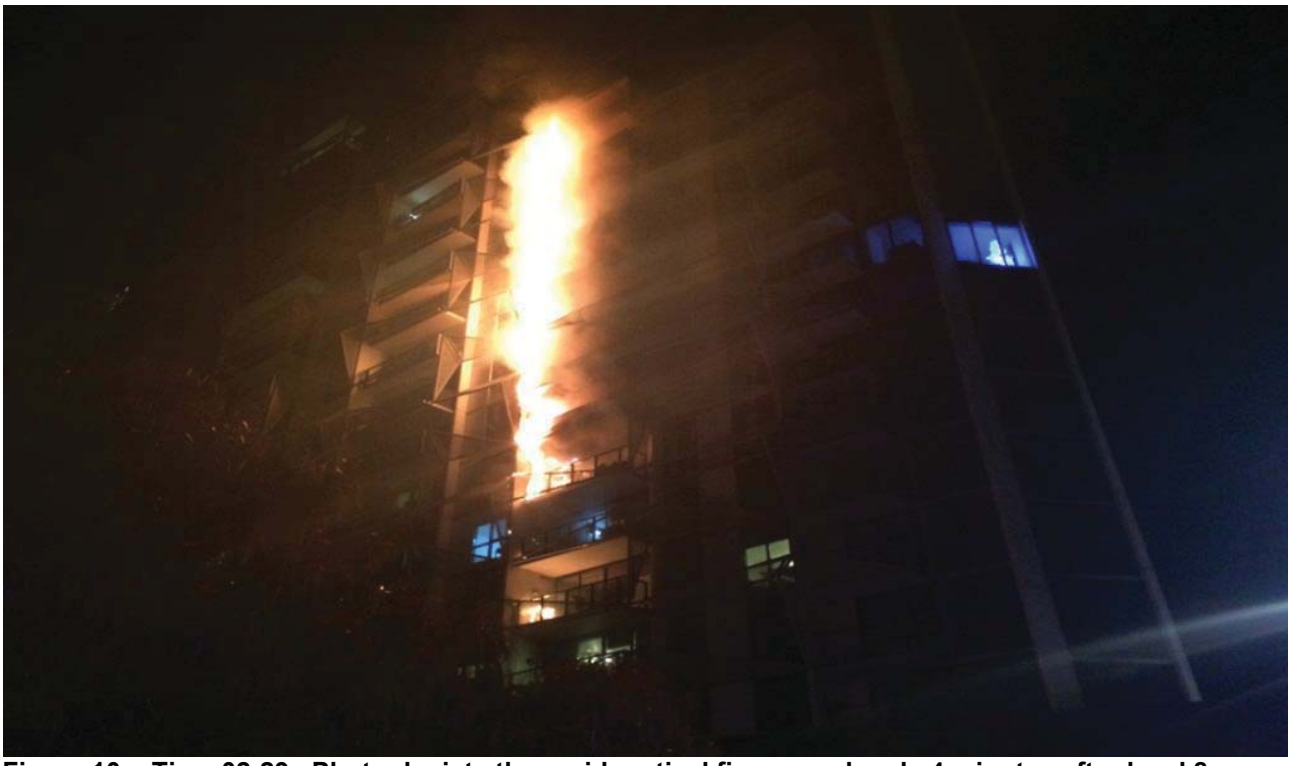

Figure 10 - Time 02:29. Photo depicts the rapid vertical fire spread, only 4 minutes after level 8 sprinkler activation

The MFB Fire Investigation team have determined that the fire originated on the balcony of the 8th floor. The FIP history log shows activation of the Level 8 sprinkler flow switch at 02.25 hours, one minute later than an exchange call received by the MFB. Fire crew arrived on scene at 02.29 hours, some five minutes later and reported vertical fire spread to approximately the 14th floor. At 02.35 hours, MFB crew reported that the vertical fire spread had reached the roof.

From the timeline described above, it is reasonable to derive external vertical fire spread occurred from the 8th floor to the roof above the 21st floor within 10 to 15 minutes, penetrating the adjacent internal rooms on all floors. In the case examined in this report, the upward vertical spread of fire was restricted only by the height of the building. If the building and the construction of the external walls continued to a greater height of upward of 21 storeys, it is highly probable fire spread would have continued beyond 21 storeys.

Whilst the fire sprinkler system water supply in this building performed beyond its design capabilities (see Section 6.7 of this report), the water supply in other buildings cannot be reasonably expected to enable the sprinkler system to perform in this manner. Additionally, on the morning of the fire, the prevailing winds were from the west, which likely assisted in drawing flames and hot gases away from the internal building compartment.

In different circumstances and in contrast to the outcomes of this fire event, we may have witnessed internal fire growth and spread, established over 16 plus levels, aided by high easterly winds back into the face of the building. This would be an extremely high challenge event for safe building evacuation and effective fire brigade intervention.

The fire behaviour and extent of fire spread, both externally and internally, clearly demonstrated that the form of construction adopted in the building solution does not meet performance requirement CP2(a) of the BCA with respect to the avoidance of fire spread.

The fire resulted in internal ignition occurrences on all floors where external fire spread occurred. Simultaneous fire incidence over many floors at heights possibly well beyond the external reach capabilities of the attending Brigade, is an extremely challenging scenario for successful Fire Brigade intervention. Based on the observations of the fire incident the, Chief Officer believes that the building solution does not incorporate elements to the degree necessary to avoid the spread of fire.

Appendix 12 contains examples of similar international fire incidents involving facades clad with aluminium/polyethylene composite panel.

6.2. Use of Combustible External Wall Cladding on Type A construction

MFB Comment:

Due to the use and number of storeys, Stage 1 of The Lacrosse Apartment Building is considered a building requiring Type A construction when determined under C1.1 of the BCA.

In accordance with the deemed-to-satisfy requirements of Specification C1.1 of the BCA, external walls of Type A buildings must be *non-combustible,* notwithstanding any requirement for fire rating. *Non-combustible* is a defined term in the BCA and is defined as the following:

> *Applied to a material – not deemed combustible as determined by AS1530.1 - Combustibility Test for Materials; Applied to construction or part of a building - constructed wholly of materials that are not deemed combustible.*

Additionally, a material may be considered non-combustible under C1.12 of the BCA, if it meets the defined criteria within that clause. Standard grade Alucobest aluminium/polyethylene composite panel does not meet the criteria and nor is it likely that it has been successfully tested in accordance with AS1530.1.

Therefore, a building permit application specifying the use of standard grade Alucobest aluminium/polyethylene composite as an external wall cladding system, proposes an alternative solution to the deemed-to-satisfy requirements of the BCA. Evidence of suitability for the material and form of construction must be obtained in accordance with A2.2 of the BCA, to demonstrate it meets the relevant performance requirements. This may be in the form of a Certificate of Conformity/Accreditation. The MFB have not been able to gain such documentation for the Alucobest range and these products are not included in the ABCB - Register of CodeMark Certified Products.

Occupancy Permit Information – Lacrosse Building – Stage 1

An Occupancy Permit 14166F6a (OP) was issued by the Relevant Building Surveyor on 13 June 2012. The OP documents 20 alternative solutions that were *"used to determine compliance with the (following) Performance Requirements of the BCA".* The building solution also includes several Building Appeals Board determinations and many items supported under Report and Consent from the Chief Officer and the City of Melbourne.

The alternative solutions listed in the OP however, do not include the adoption of an alternative solution for the use of combustible cladding on the external façade. Furthermore, the fire engineering report referenced on the OP and dated November 2010, did not include acknowledgement and assessment of this deemed-to-satisfy non-compliance.

6.3. Building Material Design, Selection and Installation

MFB Comment:

The MFB has been unable to obtain the complete building approval documentation as the total of the approved drawings, specifications was not available at the Council Offices. The MFB was therefore unable to substantiate if Alucobest panel was specified in the approved drawings or a competitor product.

Anecdotally, many of the same/similar products in Australian competitors range have obtained Certificates of Conformity under the ABCB – CodeMark Scheme. The conditions on the certificates generally require mechanical fixing systems for the panels on Type A and B buildings, in lieu of adhesive flat tape as used on the Alucobest product on the Lacrosse Building. The MFB have been informed by industry representatives that they believe this requirement is to prevent delamination of the aluminium face sheet, which can expose the combustible core material to the effects of fire. Brigade member accounts, along with video footage, details large flaming flat sheets falling from the building façade.

Additional to the combustible cladding, the lightweight external walls at the southern end of balconies include combustible 100mm PVC stormwater downpipes and associated lagging within the core of the wall. The downpipes are connected to the drains housed in the balcony floors to drain stormwater collected on the surface of the balconies. A fire collar is installed around the PVC downpipe penetration, through the concrete balcony, to retain the required fire resistance level.

Inspections conducted after the day of the subject fire incident revealed that many fire collars failed to operate as designed i.e. did not close sufficiently to prevent fire spread to connecting levels. The collars are fitted around an 88^{o} PVC "plain junction (tee)" pipe connector which connects the vertical downpipe with the horizontal pipe connected to the balcony floor drain. An 88^{o} PVC "plain junction (T)" pipe connector would be expected to have greater resistance to the crushing action from the fire collar due to the connector's increased wall thickness and form.

Additionally, the PVC thickness is increased where the connector (female) and downpipe (male) join in the connector housing. The MFB believe this material application and installation is not likely to be in accordance and identical with a successfully tested and approved prototype.

6.4. High Occupancy Rate

MFB Comment:

The occupancy of many of the apartments appeared to be in excess of what would normally be expected in a two bedroom apartment and what a two bedroom apartment is designed for. During investigations it was identified that some apartments had sleeping arrangements for up to eight people. This led to a greater level of storage of personal belongings within the apartment and on the apartment balcony.

As a result, the higher fire fuel load has allowed for a more intense fire to develop on the balcony. In this instance the sprinkler system did not cover the balcony so the fire was able to develop to the point of causing the glass panels located between the apartment's living room and the balcony to break and expose the internal rooms to fire. Fortunately in this instance, the sprinkler system installed within each apartment prevented major internal fire spread.

Additionally, high occupancy of apartments can impact on safe evacuation of occupants in the event of an emergency. Some of the apartments in this building had temporary structures assembled around the bed to provide privacy. These light weight structures, along with other furnishings and contents, may impede clear egress from the apartment making it difficult for occupants to exit safely.

6.5. Mass evacuation necessary due to fire development and spread

MFB Comment:

External wall construction and materials used in this building allowed for rapid vertical fire spread, involving a relatively large portion of the high-rise building as opposed to a single level. In light of this fire, Officers had no choice but to evacuate the entire building. Over 400 evacuees were assembled in La Trobe Street before the MFB identified that a large sheltered evacuation centre would be needed.

Initially the evacuees were escorted from La Trobe Street to the Southern Cross Station bus centre, where they were monitored by Ambulance Victoria and provided with water and blankets. The MFB Incident Management Team (IMT) called for the response of the Municipal Emergency Response Officer (MERO) and the establishment of an Emergency Relief Centre, (ERC). During the morning it was decided to use Etihad Stadium as a recovery and information centre and all evacuees were transferred to this location.

The care and management of the displaced occupants also presented a challenge for the MFB and other agencies. During the MFB debrief fire-fighters indicated that it was a difficult process to register and account for all occupants, as some evacuees did not speak English and some did not understand the reason for providing their name and address.

Due to the fire damage and the fire systems being inoperable, the occupants were unable to return to their apartment for an extended period of time. Some occupants were displaced for a longer period while the building underwent structural repair.

6.6. Emergency Warning and Intercommunication System (EWIS) was compromised

MFB Comment:

In the hours after the fire, MFB personnel conducted numerous interviews with occupants and fire-fighters that were involved in the initial fire response. Many of the occupants spoken to said they did not hear alarms. These occupants said they were awoken to the fire by “screaming, banging and other loud noises”.

The remaining witnesses fell into two different groups. One group commented that the alarms came on for a few seconds only or they could hear alarms but they were very quiet and distant. The other group said they heard the alarms and evacuated.

Approximately 10 minutes after the first appliance arrived on scene a fire-fighter used the EWIS PA facility to make an evacuation announcement. No witnesses questioned reported hearing this message.

Subsequent investigations found that the following scenario resulted in the EWIS’s failure.

Directly above the balcony air-conditioner compressor units (south wall), is a metal exhaust grill. The grill is connected to a formed sheet - metal collection box located in the ceiling space above Bedroom 2. The collection box is approximately 600mm wide, 250mm high and 600mm deep. Two 150mm non-insulated aluminium flexi ducts were connected to the collection box from the bathroom exhaust fans. A EWIS sounder was located in the ceiling of Bedroom 2 and directly adjacent to the above exhaust collection box. Refer to diagrams and photo in Appendix 5 for further detail. This design arrangement was typical for all apartments in vertical alignment from 605 to 2105.

The EWIS system is designed and installed as per Australian Standard AS1670.4. This Standard requires all wiring between the EWIS’s main panel and the evacuation zone to be fire rated. The zone wiring itself is not required to be fire rated, instead non-fire rated thermal plastic sheath (TPS) wire is used. Refer to Appendix 6 figure 17.

As identified earlier, the fire started on the balcony of Apartment 805 on Level 8. Hot gases as a result of the fire, entered the ceiling space over Bedroom 2 via the external wall grill and compromised the wiring and designated sounder of the EWIS (Appendix 5). This resulted in a fault in the speaker loop and subsequent failure of the entire sounder system on the entire 8th level. This has been confirmed by Representatives from the installation/maintenance company.

Based on witness statements and subsequent investigations, it is believed that the EWIS on Level 8 and 9 operated for approximately 30 seconds after the FIP received its first activation transmission from the smoke detector outside Apartment 805. It then failed due to the fire compromising the system. It is also believed that the EWIS operated on Level 7 for approximately 5 minutes before it too failed.
As described earlier the fire burnt up the side of the building extremely fast. It is believed that the fire caused the EWIS’s system to fail on most of the levels ahead of the cascading EWIS evacuation sequence that was ascending the building. This would suggest that those who said they heard the alarm and evacuated would have been located below Level 9.
A number of occupants and fire-fighters interviewed, said they heard alarms but they were very quiet and distant. These alarms may be attributed to the following:

- Stand-alone AS3786 smoke alarms operating in adjacent apartments (not linked to EWIS).

- EWIS sounders on other lower floors; for example the occupants of Apartment 606 may have heard the evacuation tones coming from Level 5 below.
- In the initial 15 minutes, over 15 Fire Brigade vehicles arrived on scene. In addition to this number, numerous police cars and ambulances also arrived on scene; it may have been the sirens from these vehicles that occupants heard.

6.7. Sprinkler System operated well beyond its designed capability

MFB Comment:

In total, 26 fire sprinkler heads activated over 16 floors during the fire incident. As the fire spread to each level, fire sprinkler heads generally activated within the lounge and bedroom 2 and prevented internal fire spread and development into apartments. This put a significant demand on the installed sprinkler system and associated water supply. Additionally, two internal fire hydrants were used by fire-fighters to extinguish fires not extinguished by the sprinklers.

The installed combined fire hydrant/fire sprinkler system, compliant with AS2118.6, was designed to facilitate simultaneous operation of four sprinkler heads and two fire hydrants. See Appendix 8. It is possible that not all sprinkler heads along with the two fire hydrants were operating at the same time; however due to the time-line of events, it is reasonable to conclude that the system operated significantly beyond its designed capability.

Had the combined fire hydrant/fire sprinkler system not exceeded its designed capability, it is likely that significant fire development and spread would have occurred in some of the subject apartments on Levels 6 to 21. Spread beyond the subject apartments to adjacent apartments and common areas may also have occurred.

This would have presented an extremely difficult scenario for fire-fighters and occupants of the building, and may have resulted in serious injury and/or death. Significantly increased property damage and loss would have occurred along with the negative impact on occupant displacement and emergency service/recovery agency resource.

6.8. Sprinklers were not required on the balconies under the BCA

MFB comment:

The balconies connected to Apartments 605 to 2105 were approximately 1.8 metre in depth x 4.7 metre long. The sprinkler system did not extend beyond the apartments' internal areas to the balconies and it is acknowledged by the MFB that this was not a deemed-to-satisfy requirement under the Building Code of Australia (AS2118.1 Section 5.7.10).

> *AS 2118.1 Section 5.7.10 - Covered balconies*
>
> *Portions of covered balconies that exceed 6m² floor area and have a depth in excess of 2m shall be sprinkler protected.*

The Chief Officer Report and Consent pursuant to Regulation 309 of the Building Regulations 2006, dated 29 March 2011, contains notification under 309(3) for the deletion of sprinklers to balconies (not Apartments 605 to 2105) and indicated the balconies in question would have low fuel loads. MFB recommendations included a comment that balconies were not to be used for storage and requested that this measure was to be included as part of the Essential Safety Measures for the building.

In this instance, typical combustibles identified to be present on balconies throughout the building consisted of clothing, bedding, bicycles, electrical appliances and other miscellaneous combustible materials, notwithstanding the air conditioner compressor units and other combustible furniture items. See Figure 11 below for example.

Figure 11 - Combustibles stored on one of the balconies.

High occupancy rates in apartments can lead to reliance on balconies for additional storage space, increasing the fire load.

Had the sprinkler system extended to the balcony area of each apartment, fire would have most likely been contained to the level of fire origin.

6.9. Maintenance Issues

***Note**: The following issues were identified as a result of investigations into the fire and are considered not likely to have impacted on the fire incident.*

6.9.1. Fire extinguishers not accessible

MFB comment:

As discussed in the 'Installed Fire Safety Equipment' section of this report, there are three fire extinguishers installed on each residential level. These extinguishers are required to be installed in accordance with Australian Standard AS2444-2001.

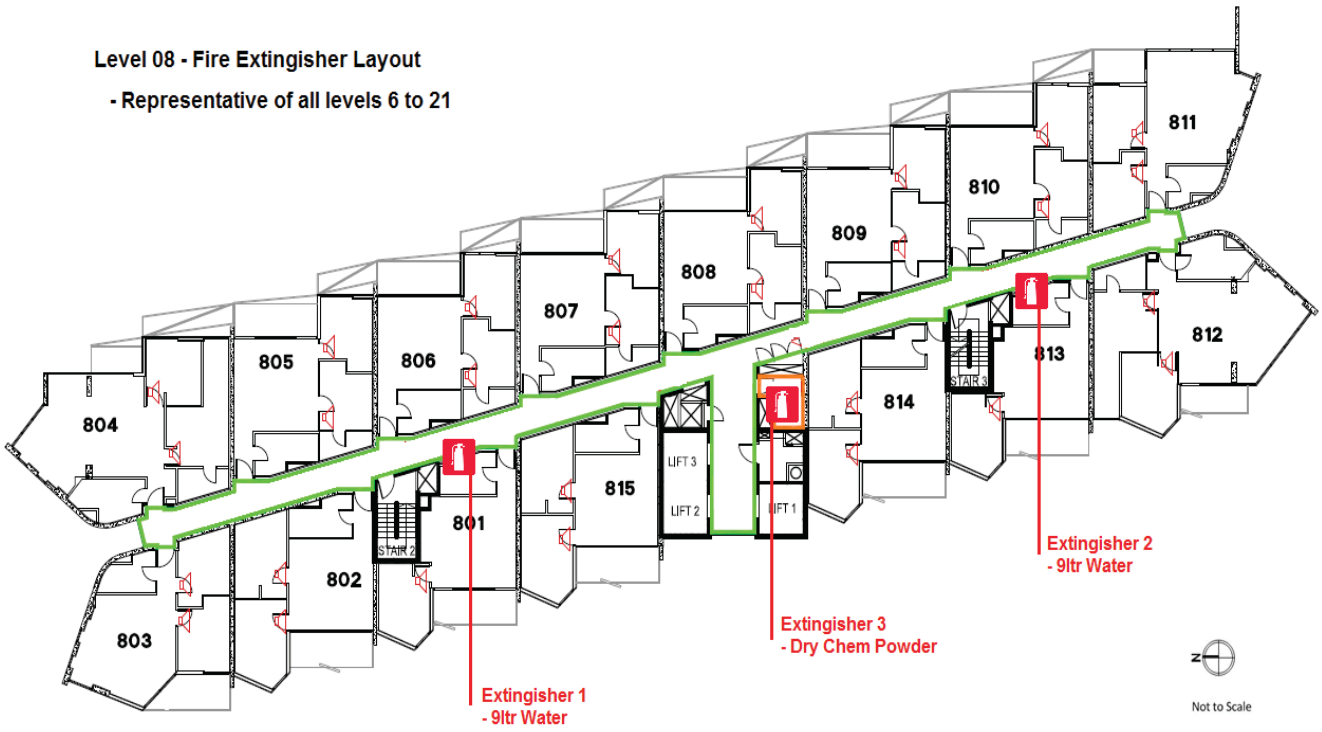

Figure 12 - Fire extinguisher layout

This Standard states that each extinguisher shall be located in a conspicuous and readily accessible position and extinguishers shall not be located in positions where access could present a hazard to the potential user.

In this instance, a number of the purposely designed extinguisher enclosure housing Extinguishers 1 and 2 shown in Figure 12 (refer previous page), were being used by occupants as storage areas thus blocking access to the extinguishers.

Figure 13 - Fire extinguisher cupboard on Level 6.

The storage of goods and materials in enclosures used to accommodate fire safety equipment, delays access for occupants or fire-fighters who require the equipment in an emergency. These storage items are generally of a combustible nature and present an additional hazard.

It was noted during investigations that extinguisher three (as shown in Figure 12) on all residential levels was locked within a service room where they were inaccessible to occupants and fire-fighters.

Australian Standard AS2444-2001 identifies that all extinguishers shall have a 'Location Sign' installed that is clearly visible to persons approaching the extinguisher. None of the extinguishers inspected on the residential levels had 'Location Signs' installed on the outside of the cupboards.

6.9.2. Apartment Smoke Alarms tampered with.

MFB comment:

Smoke alarms are designed to detect smoke, alert occupants of fire and provide time to evacuate or undertake initial fire-fighting if safe to do so.

As discussed in the 'Installed Fire Safety Equipment' section of this report, each apartment is fitted with Australian Standard AS3786-1993 smoke alarms. Hard-wired smoke alarms such as the ones installed at this premises, are connected to the mains power and include a battery back-up facility in the event of power supply failure. If smoke alarm batteries are removed from this type of alarm, the alarm cannot be closed resulting in the mains power being disrupted and the alarms unable to operate.

It was observed that within a number of apartments the battery had been removed from the smoke alarm. In addition some smoke alarms had been covered (Refer to Figure 14 below).

Figure 14 - An example of an obstructed Smoke Alarm – Apartment 805

7. CONCLUSION

In this instance, fire quickly extended up the external wall involving the cladding and fuel loads on each balcony. Had the external wall cladding been of a non-combustible type, the likelihood of fire spread beyond the level of ignition would have been greatly reduced.

Furthermore, if a sprinkler head had been installed, it too would have reduced the chance of fire spread.

In the words adopted within the Building Code of Australia, a building must have elements to the degree necessary to avoid the spread of fire in a building. Amongst other considerations, the degree necessary is relative to:

- The function and use of the building – residential building with sleeping occupants not in a ready and aware state.
- The fire hazard – the installed cladding material appeared to be a readily combustible material, which upon ignition sustained and supported rapid spread of fire. Additionally, there was excessive storage of combustibles on many of the balconies.
- The number of storeys – the building contains 23 storeys (high-rise).
- Fire brigade intervention – High-rise, 400+ occupants and multiple internal ignitions over 15 floors.

The fire behaviour on the morning of the 25 November 2014, clearly demonstrated to all concerned, that the elements installed to the external walls of this building did not avoid the spread of fire to the degree necessary.

An improved system and understanding for ensuring appropriate material selection, approval and installation is of major importance to the MFB.

There were many contributory factors leading to the events on 25 November 2014. In this instance, increased combustible fuel loads on the unsprinklered balcony aided in the ignition and fire propagation to such a degree, as to allow ignition of the external wall cladding. This incident in isolation may have resulted in a far more manageable outcome with damage on one level only. However, as previously described in this report, rapid fire spread directly related to the involvement of the external cladding material, occurred to such an extent that the only likely fact preventing further vertical fire spread was the limitation of the building height to only 21 storeys.

Clearly, the external cladding material on this building did not to the degree necessary avoid the spread of fire as required by the Building Code of Australia. Simultaneous internal fire ignition events over multiple floors are simply an unacceptable fire safety solution for a residential high-rise building, or any other occupiable building for that matter.

If not for the excellent performance of the internal fire sprinkler system and the quick and professional response of the MFB fire-fighters to prevent further internal fire spread and development, the consequences of this fire would likely have resulted in greater impact on occupants, the surrounding community amenity, resources and infrastructure. There could have been a greater likelihood of serious injury or even loss of life

Whilst damage and injury were minimised, the social impact of this fire was considerable and cannot be ignored. All occupants of the building were displaced for some days during building refurbishment and reinstatement of the fire safety systems, whilst the occupants of the fire affected apartments were displaced for considerably more time.

Prevention of similar incidents in new and existing developments should be a priority for the entire construction industry. This must start with ensuring an improved process and/or understanding for appropriate material selection, approval and installation. In particular, the MFB would urge all stakeholders in the construction industry to exercise greater diligence and caution with the selection and installation of aluminium/polyethylene composite cladding panels, and encourage selection of those products with appropriate and clear product accreditation and certificates of conformity.

Given the risk of fire on a residential balcony is real, and as in this instance, the sprinkler system within the apartments does not extend to protect the balcony on each level, there is the possibility for this scenario to repeat itself.

8. RECOMMENDATIONS

As the reporting agent, the MFB has made the following recommendations, after considering the use of the building, its size, location and type of construction and the number and type of people likely to use it. The MFB believes that if the following are implemented, a greater degree of fire safety will be afforded to buildings of this nature, the people who occupy them and to attending fire-fighters.

8.1 The relevant building surveyors, architects, developers and designers should pay careful consideration to the external wall construction and all associated cladding materials to be adopted in construction proposals requiring Type A construction.

Many aluminium/polyethylene composite panel products have current Certificates of Conformity under the ABCB – CodeMark Scheme. The MFB encourages designers and certifiers to adopt the products with current certificates, and ensure compliance with all conditions imposed on the certificate.

Caution should be exercised in the absence of clear and transparent documentation to demonstrate compliance with Clause 3.1(b) of Specification C1.1. of the BCA for non-combustibility.

A form of construction or individual material components can only be considered non-combustible under one of the following methods of the BCA:

- Meets the criteria for being determined as non-combustible under C1.12;
- Has been successfully tested in accordance with AS1530.1 – Combustibility Tests for Materials; or
- Has evidence to demonstrate that the materials and form of construction to be adopted is “fit for the purpose for which they are intended” under A2.1.

Building Surveyors should exercise greater diligence where materials and forms of construction are proposed with Evidence of Suitability under options (i), (iii), (iv), or (vi) A2.2. The MFB support the guidance and position documented in the FPA Position Statement - Product Compliance And Evidence Of Suitability available at the following web address:

http://www.fpaa.com.au/media/109830/fpa_australia_-_ps_05_v1_product_compliance_and_evidence_of_suitability.pdf

Building Practitioners are encouraged to read and understand this document and seek further advice from their respective industry bodies and representatives.

8.2 The MFB concur with the conclusions made in The Fire Protection Research Foundation published a report in June 2014, titled “Fire Hazards of Exterior Wall Assemblies Containing Combustible Components (1)”. The report concludes that:

> *“Small scale tests can provide misleading results for materials which are complex composites or assemblies. This is particularly the case where a combustible core material may be covered by a non-combustible or low-combustible material or a highly reflective surface”.*

"Full-scale façade tests are currently the only method available for absolutely determining the fire performance of complete assemblies which can be influenced by factors which may not be adequately tested in small scale tests".

"There is currently no practical method of predicting real scale fire performance from small-scale tests for the broad range of exterior wall systems in common use. Small scale tests may provide acceptable benchmarks for individual material components. However further validation against full-scale tests may be required to support this. Small scale tests (in particular the cone calorimeter) can also be useful for doing quality control tests on materials for systems already tested in full-scale or for determining key flammability properties for research and development of fire spread models. Small scale tests, such as the cone calorimeter should not be used to assess the performance of the whole façade assembly".

"Full-scale façade tests with a wing wall are currently the best method available for determining the fire performance of complete assemblies which can be influenced by factors which may not be adequately tested in mid to small scale tests. These factors include the severity of fire exposure, interaction of multiple layers of different types of materials, cavities, fire stopping, thermal expansion, fixings and joints".

The MFB is aware that a sub-committee has been formed by representatives of the Australian Standards Committee FP 18, to investigate appropriate full scale 'reaction to fire' tests for facades. The MFB are hopeful more appropriate testing requirements are adopted for testing for the façade material and components mentioned in this report and similar.

8.3 The selection, and installation of "fit for purpose", tested and approved building products and materials are of fundamental importance in ensuring the robustness of any fire safety design in building construction. The MFB support the guidance and position documented in the FPA Position Statement - Product Compliance And Evidence Of Suitability available at the following web address:

http://www.fpaa.com.au/media/109830/fpa_australia_-_ps_05_v1_product_compliance_and_evidence_of_suitability.pdf

Building Practitioners are encouraged to read and understand this document and seek further advice from their respective industry bodies and representatives.

Many aluminium/polyethylene composite panel products have current Certificates of Conformity under the ABCB – CodeMark Scheme. The MFB encourages designers and certifiers to adopt the products with current certificates, and ensure compliance with all conditions imposed on the certificate.

8.4 Legislation review and possible amendment to reflect a greater level of ownership and managerial control around the occupancy rate within Class 2 occupancies.

8.5 Where alternative solutions propose additional AS1670.4 sounders within sole-occupancy units consideration should be given to not impact on the redundancy and reliability of the system. One solution may be to provide two independent sounder loops throughout the floor level. One loop dedicated to the sounders within the sole-occupancy units, and another dedicated to sounders within common areas/corridors etc.
The common area sounders should be specified to achieve 85dB at the entry door independent of the performance of the sounders within the sole occupancies. This will

provide greater redundancy to the potential loss of sounders within the sole occupancy units and ensure compliant performance is retained.

8.6 Another solution may be to specify all wiring to be fire rated throughout the entire system and/or to have all speakers connected in parallel as opposed to series. This will ensure operation is not compromised in the event that a section of the wiring or individual sounder is lost.

8.7 Possible amendment to AS2118.1 Section 5.7.10 to require sprinkler protection to all portions of covered balconies irrespective of their size in Class 2 buildings.

Note: The MFB are not suggesting this as a fire safety measure to mitigate the risk of the installation of combustible cladding materials on external walls, but rather to address what the MFB perceives to be an increasing trend in the storage of combustible items on external residential balconies.

8.8 Building management to ensure that all installed fire extinguishers are unobstructed clearly identified and correctly maintained. The storage of goods and materials in fire safety equipment enclosures should be regularly monitored and appropriately addressed with measures to discourage and/prevent re-occurrence.

8.9 Building occupants need to be made aware of the importance of smoke alarms in providing early detection. In removing the backup battery or covering the alarm to prevent false alarms, they are putting themselves and other occupants at greater risk of serious injury or possible death.

8.10 Building management to implement and enforce a good housekeeping policy to prevent the accumulation and storage of combustibles and other items on the balconies, ensuring that there is minimal material to fuel a fire.

8.11 That the ABCB, in conjunction with Standards Australia and the appropriate standards committee (FP18), investigate appropriate test methods that reflect the actual performance of external wall assemblies under all fire conditions (For example ISO 13785-2:2002(E)), for future inclusion in NCC Volume 1.

8.12 That all relevant Australian state building agencies/authorities develop strategies and policies for the risk mitigation of the potential fire hazard associated with the use of combustible Aluminium/Polyethylene composite panelling within their jurisdiction. This involves existing Type A and B constructions and where there is no documented evidence to show compliance with the performance requirements of the BCA.

Greg Badrock
Acting Commander
Building Inspection and Compliance

Rodger Bryant
Building Practitioner
Community Safety Technical Department

PIA Circulation List

Victorian Building Authority
Insurance Council of Australia
MFB Incident OIC Incident
Rob Llewellyn, Community Safety Portfolio Manager, AFAC
Society of Fire Safety, Engineers Australia
Property Owner
Australian Institute of Building Surveyors, Victorian Chapter
Australian Institute of Building, Victorian Chapter
Australian Building Codes Board
Victorian State Coroner
Building Appeals Board, Chairperson
Municipal Building Surveyor
Executive Director, Emergency Management
CFA, Director Community Safety
FPAA, Chief Technical Officer
MFB Commanders, Community Resilience (all districts)

APPENDIX 1 – Municipal Building Surveyors Report

CITY OF MELBOURNE

Lacrosse Building Fire

673 La Trobe Street, Docklands on

25 November 2014

Photo Prior To Fire

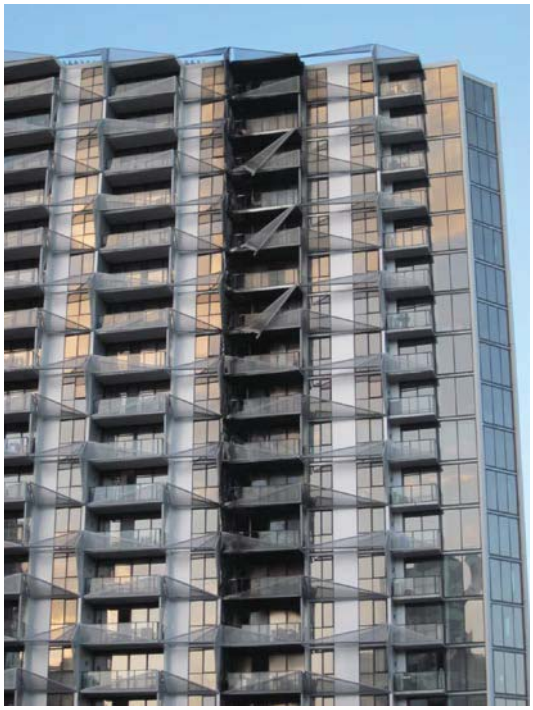

Photo Post Fire

Giuseppe Genco

Municipal Building Surveyor

City of Melbourne

April 2015

(DM ref# 8989066)

Executive Summary

The Lacrosse building, situated at 673 La Trobe Street Docklands, is a twenty three (23) storey mixed-use building which includes fifteen levels of apartments. Levels six to twenty-one were affected by fire and many more were affected by water damage. There are approximately fifteen apartments per level.

A fire took place in the early hours of the morning of 25 November 2014. The fire at the Lacrosse building is a first in Melbourne in that it directly affected approximately 450 to 500 people who required immediate evacuation and accommodation. In addition the fire spread vertically and was not contained in the room or area of fire origin. Fortunately in this incident there were no fatalities or serious injuries.

The fire and subsequent investigation raise a number of questions relating to:

- The compliance of the building to the Building Code of Australia (BCA);
- The number of occupants contained within the building;
- The external wall cladding system used and whether it has been approved and accredited.

The objective of current building legislation (the Building Act and Building Regulations) is to keep people safe and to regulate minimum building standards. The spread of the fire in this incident brings into question the ability of building legislation, including the regulatory process, to minimise the impact of such an event. The Act and Regulations also provide a process of how the MBS can bring the building into conformity with the Act and the BCA.

Inspections after the fire raised questions about materials used on the external façade wall. A post incident analysis (PIA) has been undertaken by the Melbourne Metropolitan Fire Brigade (MFB) which identified that the external wall between the balcony and bedroom was **not** non-combustible. This is contrary to the prescriptive requirements of the Building Code of Australia (BCA) for Type A construction.

A review of the documentation lodged by the Private Building Surveyor with Council has highlighted the following:

- That the documentation does not provide sufficient detail to determine if the wall was designed to be non-combustible or not,
- The occupancy permit was limited to approximately 36 persons per floor for levels 6-21,
- There is no evidence within the fire engineering design report as to whether this wall was considered to be not non-combustible.
- No specific documentation lodged by Private Building Surveyor with Council, proving that the wall system was approved or accredited.

It was observed during the inspection that some apartments were being utilised as multiple accommodation units on a commercial basis, with some apartments containing 6 to 8 beds. An increase in the density of population without heightened warning systems may lead to the MFB being caught unaware for the extent of occupants in case of evacuation and the potential for the occupants to not evacuate in time.

The principal legislation dealing with fire safety, basic amenities and sustainability, is contained in Building legislation. Planning and Health are involved however, more so with the impact of amenities on surrounding properties and registration plus cleanliness of rooming houses.

In assessing the steps involved in the approval process and also the use of the building, containing more people than anticipated per floor and the use of short term commercial accommodation, it is considered that the current regime of the Building Act and Building Regulations plus BCA does not manage well complex buildings and the way they are used today.

In addition, the ability for the MBS to bring buildings into compliance is cumbersome, requiring in this case, the serving of notices on 300+ property owners – a consequence of the enforcement provisions of Part 8 of the Act where directions are required against each individual owner.

The key areas highlighted that are recommended for review are:

- The product accreditation process is not widely utilised in Australia and the constant introduction of new range of products being used by the building industry each year suggests the policing of these products is unchecked.

- The use of non-accredited products within the building industry which may go largely unchecked.

- Clearer definition is required of what constitutes the use of a Class 2 apartment building and a Class 3 commercial accommodation building (or part thereof) and whether the technical regulations cater for their respective use. In particular where multiple apartments have occupant numbers higher than one would consider the norm for apartment dwellings.

- Method of how the design parameters which are assumed by fire engineers for alternative solutions are clearly transferred onto occupancy permits. In particular in this case design parameters such as occupant characteristics and reliance on prescriptive requirements.

- The relevance of an occupancy permit which was issued prior to subdivision of a building is questionable, particularly in relation to occupancy numbers and the ability to ensure compliance with the Building Act 1993.

- Review Part 8 of the Building Act 1993, taking into consideration the Sub-division Act, how buildings are currently being occupied, and how the enforcement provision can be improved.

- Provision of Warranty insurance for apartment buildings, and the type of warranty insurance taking into consideration the increase in higher density living.

Contents

1.0 PURPOSE

The purpose of this report is to provide details of inspections and actions taken by the Municipal Building Surveyor's office as a result of fire in the Lacrosse Apartments, on the 25 November 2014. As a result of further testing of a building component this report will also comment on and highlight shortfalls in the current Building Regulatory Framework during the approval process and also subsequent process required to make the building compliant.

2.0 DEFINITIONS

'The Act'	Building Act 1993
'Regulations'	Building Regulations 2006
'NCC'	National Construction Code
'BCA'	Building Code Australia being in this case Volume 1 of the NCC
'DtS"	Deemed to Satisfy Solution prescribed in the BCA
'PBS'	Private Building Surveyor
'MBS'–	Municipal Building Surveyor
'MFB'	Metropolitan Fire Brigade
'RBS'	Relevant Building Surveyor
'EO'	Emergency Order pursuant to S102 of the Act
'BN'	Building Notice pursuant to S106 of the Act
'BO"	Building Order S111 of the Act

3.0 BACKGROUND

3.1 BUILDING REGULATORY FRAMEWORK

Australia's Building Regulatory Framework varies from state to state, as a result of the Building legislation remaining a residual process not subject to total Federal jurisdiction

Building legislation development in each state and territory has evolved over many decades with each developing their own administrative processes and technical provisions. In the 1970's a concerted effort was made to develop as a first step, a National Technical Building Code. This culminated in the development of the Building Code of Australia (BCA) in 1988 (1st Ed) and 1990 (2nd Ed). In order for the BCA to become legislation each State and Territory was required to reference it as its technical requirements.

The current version of the BCA is now incorporated under the National Construction Code (NCC) series. With Volume 1 of the BCA dealing with Class 2-9 buildings (apartments, commercial, industrial and public buildings). Apartment buildings are Class 2 and hotels are Class 3.

Concurrently in the late 1980's there was a similar process which was embarked upon to develop a National Model Building Act. Parts of this 'Model Building Act' have been implemented in various states and territories with mixed adoption. The principles of the Model Building Act were incorporated into the Building Act 1993 here in Victoria. One of the main initiatives was the introduction of privatised system for the issue of building permits, inspection regime, and issue of occupancy permits.

In Victoria, the Building Act 1993 was introduced in 1993, which in turn currently calls up the Building Regulations, which references the BCA which in turn references Australian Standards. As a hierarchal process it is accepted that to resolve any inconsistencies between documents the Act can override the regulations which in turn can override the NCC/BCA and Australian Standards.

An extract of the Act objectives is contained below.

Building Act 1993- Objectives

Objectives of Act

(1) The objectives of this Act are—

(a) to protect the safety and health of people who use buildings and places of public entertainment;

(b) to enhance the amenity of buildings;

(c) to promote plumbing practices which protect the safety and health of people and the integrity of water supply and waste water systems;

(d) to facilitate the adoption and efficient application of—

(i) national building standards; and

(ii) national plumbing standards;

(e) to facilitate the cost effective construction and maintenance of buildings and plumbing systems;

(f) to facilitate the construction of environmentally and energy efficient buildings;

(g) to aid the achievement of an efficient and competitive building and plumbing industry.

(2) It is the intention of Parliament that in the administration of this Act regard should be had to the objectives set out in subsection (1).

3.2 REGULATORY PROCESS (Building Permit-Occupancy Permit)

The Act and Regulations together provide the mechanism and processes to be followed in order to ensure the objectives of the Act are achieved. The principal process of ensuring construction meets the objectives of the Act is to require:

- Buildings to be designed and documented in accordance with BCA, Building Regulations, Building Act and other regulatory requirements
- Building documentation to be assessed and approved by RBS with a building permit issued prior to construction. Documents must show compliance with the BCA, Building Regulations and Building Act.
- Building to be built in accordance with approved documents and that the construction is inspected at key stages (typically footing, frame, final);
- Any variation to the building which will impact on regulatory matters requires a variation to the documentation approved under the building permit to be submitted to the RBS for approval prior to construction;
- An inspection is undertaken at the final stage with documents provided to the RBS for key components of the building e.g. test reports on the sprinklers systems, etc. An occupancy permit is issued or certificate of final inspection (depending upon the development), is to be issued by the RBS.

In Victoria a private building permit process was introduced in 1994. This allowed registered private building surveyors (PBS) to undertake the functions previously undertaken by Council. Owners can either engage a PBS or the Municipal Building Surveyor (MBS) to undertake the above functions.

If the owner decides to engage a PBS the Act also requires that PBS to

- Notify the relevant council of their appointment (s. 80 of the Act)
- Lodge documentation with council contained under r. 302, r. 305 and Schedule 2 of the Act
- Undertake inspections at mandatory inspection stages and
- Lodge occupancy permit and documentation as required in, s. 72, s. 73, and r. 1103 with Council.

In assessing the documentation, the designer and RBS must ensure the material and the building systems proposed complies with the relevant clauses of the BCA. This is explained in more detail below under BCA requirements.

3.3 BCA REQUIREMENTS

3.3.1 General

The BCA is referenced in r. 109 of the regulations and sets out the technical requirements and acceptable building solutions for design and construction. The BCA is a performance based document which specifies that proposed building solutions must comply with the performance requirements to show compliance. Part A0.1 to A0.10 details the BCA structure and methods of assessment to show compliance with the performance requirements.

The building solutions allowed for in the BCA are “Deemed to Satisfy” solution (DtS) or an “Alternative Solution”. The DtS incorporates prescriptive and in some cases traditional construction methods. The Australian Standards are typically referenced as DtS solutions in the BCA which empowers the Australian Standards to be embodied as regulations.

The BCA requires an ‘Alternative Solution’ to be assessed in accordance with one of the Assessment Methods contained under Part A0.9 of the BCA.

For a material or building system to be used as an Alternative Solution, Part A0.9 (a) requires that

a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.

3.3.2 Material and Building Systems conformity

Where a material or building system does not comply with the DtS provisions it must be demonstrated to comply with ‘Alternative Solutions’ provisions.

Part A2.2 details what is considered evidence of suitability that a material or form of construction complies with the BCA. (refer to Appendix E).This clause is the relevant clause for building systems and lists that a method suitable for compliance is a Certificate of Conformity or a Certificate of Accreditation. These are defined in the BCA and are provided below.

> **Certificate of Accreditation** means a certificate issued by a State or Territory accreditation authority stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA.
>
> **Certificate of Conformity** means a certificate issued under the ABCB scheme for products and systems certification stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA. The regulations under r. 110 nominate Building Regulatory Advisory Committee as the relevant state authority for the issue of a Certificate of Accreditation by the State.

4.0 COUNCIL RESPONSIBILITIES

Part 12 – Division 5 –'Roles of Councils' under the Act, provides provisions for Council to Administer building provision in its municipality. Section 213 of the Act requires Council to appoint a Municipal Building Surveyor.

Section 212 from Part 12-Division 5, of the Act states that Council are responsible for the administration and enforcement of Parts 3, 4, 5, 7 and 8 of the Act and the building regulations within its municipal district.

These Parts of the Act cover the following:

Part 3- Building Permits

Part 4- Inspection of Building Work

Part 5- Occupation of Buildings and Places of Public Entertainment

Part 7- Protection of Adjoining Property

Part 8- Enforcement of safety and building standards

The Australian Institute of Building Surveyors (AIBS) has recently questioned the extent of the obligations of Council with regards to how to meet its responsibilities under the Act, as a result of the Victorian Auditor General's report. It is the view of the MBS of the City of Melbourne that it is not clearly defined.

Part 8 of the Act gives authority to the MBS to undertake enforcement provisions under the Act. Predominantly the enforcement provisions provided in the Act are directed to the owner of the property, other than an Emergency Order and Building Order Stop Work which allows the option of serving it to the occupier. The PBS has similar powers (except for emergency orders), however, only for permits that they issue.

The role and responsibility of the PBS/RBS after the occupancy permit (OP) has been issued is not clear in the legislation. However the PBS does not have the authority to deal with existing buildings.

Part 12 of the Regulations sets out the regime for listing of essential safety measures within the building and lists the obligations of the owners for their maintenance. Essential safety measures in this case are predominantly fire safety measures and include obvious ones such as sprinklers, however some less obvious measures such as, ensuring no breach of fire rated walls, floors etc. are also essential safety measures.

Current legislation does not stipulate as to how long after the Occupancy Permit has been issued that the responsibility to ensure compliance with the building regulations transfers from PBS to MBS. It is generally considered that once it becomes apparent that there is a problem with a building it is Council and the MBS's responsibility to take the necessary action to ensure the safety of the occupants and public and compliance of the building. In many simple cases where the issue is detected soon there-after the completion of the building the MBS may refer it to the PBS to resolve (depending on the urgency of the issue), as they would have the capacity to undertake enforcement action. However as an ultimate safety net the MBS may intervene depending on circumstances.

The tools available to the MBS, to undertake enforcement action are contained within Part 8 of the Act and include: emergency orders, building notice-building order process, building order minor works, stop work orders.

5.0 LACROSSE BUILDING

5.1 Building Description

The Lacrosse building is a 23 storey multi-use building with a rise in storey of 23 with an effective building height of 58.7 metres. The building consists of predominantly of Class 2 (Residential apartment) occupation with Class 6 (retail) and Class 7a (car park) at the lower levels. As defined within the BCA, this type of construction requires fire resistance level of Type A (the highest level of fire resistance construction required). The building has a sprinkler system installed plus other essential safety measures commensurate for a building of this type. As is becoming increasingly common, fire engineered solutions providing alternative solutions, were utilised in this building. These are listed on the Occupancy Permit (refer to Appendix B).

5.2 Building Permit Documents Lodged with Council

The Building Permits and subsequent Occupancy Permit were issued by a PBS. There were multiple staged building permits issued by the Gardner Group from 21 May 2010 to 7 December 2011. The details are listed below.

Dates of Relevant Building Permits:	**Building Permit Numbers to which this Occupancy Permit relates:**
21 May 2010	16541/100133/1
4 June 2010	16541/100133/2
18 June 2010	16541/100133/1 Amended
18 June 2010	16541/100133/2 Amended
17 August 2010	16541/100133/3
27 September 2010	16541/100133/4
28 January 2011	16541/100133/5
18 March 2011	16541/100133/6
6 June 2011	16541/100133/7
7 December 2011	16541/100133/7 Amended

The building has alternative solutions approved for the building permit and occupancy permit which includes: reduction in fire rated construction in some building elements; increased travel distance to exits; removal of fire rated construction to GPOs; discharge of exits internally; external sprinkler protection to overhangs, balconies and the like deleted; Occupant warning system in lieu of Early Warning Intercommunication System (EWIS), height of rooms in car park reduced; provision for laundry trough removed. The list of alternative solutions and better detail is specified on the Occupancy Permit.

The Occupancy Permit (No. 14166F6a) was issued for the building on 13 June 2012 as outlined in Appendix B.

5.3 BCA requirements for external walls

The above building pursuant to Clause C1.1 and Table C1.1 of BCA is required to be Type A construction. Pursuant to Specification C1.1 Subsection 3.1 (b) of the BCA external walls are required to be non- combustible as a deemed to satisfy solution.

The definition of non-combustible pursuant to Part A1.1 is

Non-combustible means—
(a) applied to a material — not deemed combustible as determined by AS 1530.1 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible.

6.0 ACTIONS UNDERTAKEN BY MUNICIPAL BUILDING SURVEYOR'S OFFICE

6.1 Inspection

As a result of the fire that occurred on the 25 November 2014 an inspection of the building was undertaken in the early hours of the morning by the Municipal Building Surveyor and his office. The MBS was alerted by the MFB and requested to attend.

The point of 'Fire Origin' is believed to be on the balcony of apartment 805. The fire spread vertically, spreading downwards to apartment 605 and upwards and affected all apartments above designated as apartment No. 5 on each level, up to apartment 2105. It was observed that on some apartment balconies large amount of household items were being stored, creating a higher fire load. This fire caused extensive fire damage to fifteen apartments and subsequently water damage to many more. We understand the MFB post incidence analysis (PIA) will deal with this aspect more in depth.

Observations and inspection results noted by the MBS during the inspection after the fire are as follows:

- Fifteen apartments had extensive fire, smoke and water damage. This included discharge of sprinklers, building occupant warning system melted and the loop for the system disrupted; structural damage to external wall, doors, balcony balustrades and decorative panels.
- Other apartments had extensive water damage or infiltration to plaster, carpets and cupboards.
- The main corridor in the proximity of the fire affected apartments was also damaged by water ingress
- A number of the two bedroom apartments had six to eight beds. In two instances the living room had been converted into a bedroom with a make shift curtain rod separator with curtains. See photos Appendix C
- The balconies were being used for storage, and were not what one would normally expect on a balcony, e.g. mattresses, cupboards and other furniture.

- The sprinkler system did not extend to the external balcony of the fire affected apartments or other apartments.

- The separating external wall in the fire affected apartments, between bedroom 2 and the balcony was constructed of lightweight wall construction comprising of; steel studs, plasterboard, fibreglass insulation, sisalation, steel battens and aluminium cladding on sheeting. The wall construction appeared to not be non-combustible. The wall had penetrations comprising of; stormwater drain (SWD) pipe, electrical cabling, and copper piping within the cavity. The SWD pipe did have fire collars around it; however they did not work effectively in some circumstances.

  The above wall extended beyond the concrete balcony by approximately 400mm, with the aluminium cladding product bridging between levels on the external part of the concrete slab. Glassed sliding doors leading to the balcony were severely damaged due to the heat; there is a question as to whether they were compliant with Fire Engineering report.

- Smoke alarms in many of the multiple occupied apartments were disengaged, covered or disconnected.

- The Building occupant warning system was fire affected and the loop was disrupted to sounders in bedrooms of each apartment which was fire affected.

- The feature metal decorative panels to the external part of the building had partly failed in the fire affected apartments in particular at their joints. Thus creating a safety issue for the public below.

Appendix C provides photographic details of some issues identified above.

We understand the MFB will make specific comments with regards to some of the above in their 'Post Incident Analysis' (PIA) report. The MFB have also obtained a sample of wall cladding material for testing. The findings of the testing have determined that the material and wall cladding system is **not** non-combustible when tested in accordance with the Australian Standard AS1530.1.

The aluminium cladding system and material is commonly used in many commercial type constructions, typically low to medium rise. The typical product used is a product known as 'Alucobond'. It was later revealed that the aluminium cladding product is known as 'Alucobest', and not Alucobond (refer MFB report).

6.2 Emergency Order

It was determined as a result of the inspection following the fire (see above) that the building was unsafe to occupy due to:

- Parts of the building being severely damaged by fire and water, structural damage of non-loadbearing walls plus ceilings, balcony balustrades, architectural features and glazed external doors and windows damaged.
- The essential safety measures in the building were made inoperable due to either having been discharged and or damaged.

As with all fires there were/are a large number of apartments that suffered from various degrees of fire, smoke and water damage. Those apartments that did not suffer this fate had their fire safety systems made inoperable due to the fire affecting the centralised systems.

As a result an emergency order (EO) pursuant to s.102 of the Act was issued on the owners' corporation and a copy provided to the owners corporation managers, Platinum Strata P/L.

The primary focus of the EO was to; enable the cordoning off of dangerous parts of the building, for the building essential safety measures to be brought back in line, facilitate for limited access for residents to obtain their belongings under escorted and controlled conditions in the interim and allow Make Safe workers to undertake necessary make safe work that would permit the building/part of building to be occupied, where it was safe to do so.

The EO set out a course of action to facilitate the recovery process and eventually the re-occupation of part of the building. The EO was complied with the following actions;

- Fire-affected apartments were cordoned off with fire rated construction
- Essential safety measures were repaired and re-activated and tested for compliance
- The MFB was placed on heightened alert to allow for quicker response in particular if wall cladding material is defective.
- The architectural-decorative panels which were unsecured were removed.

The EO is a form of direction to deal with immediate issues and is typically not there to manage the rectification of longer term issues. It was recognised that the fire-affected apartments would require partial/substantial rebuilds and that this would be the subject of a building notice-order process.

7.0 NEXT STEPS FOR THE MBS

7.1 Actions Taken

It is recognized that in order for works to be undertaken that they will take time, and that short to medium term solution needs to be considered to ensure the safety of the occupiers and the public in the interim.

The building in its current state has been made temporarily safe with the following actions taken to comply with the Emergency Order, issued by the MBS and action taken by MFB

- Fire affected apartments have been cordoned off and fire separated from the building(building notices have been issued by the MBS for these apartments);
- Essential (fire) safety measures such as sprinklers, smoke detection and early emergency warning systems are now operable;
- The MFB has assigned greater resources to immediately respond to any fire alarm at the building

7.2 Actions to be Taken –Short Term

Other actions to be taken to assist in keeping the building safe are to:

- Highlight to occupiers the need to keep their balconies clear of household storage items
- Highlight to the occupiers the importance of ensuring that their smoke alarms are operating
- Check essential safety measures are being maintained on a three month basis.

7.3 Actions - Medium term

Actions to be undertaken by the MBS and CoM will be directed by what actions legislation and the processes set by legislation, using the tools that are available to us.

As a result of the CSIRO report commissioned by the MFB it has been determined that the external wall cladding to the building (Alucobest) is **not** non-combustible as required by Part CP1, CP2 inter alia Clause C1.1 and Specification C1.1 part 3.1(b). As a result of this the potential risk of the same or similar circumstances arising is increased in this building

A further range of inspections will be required of the building and depending on access to premises will determine the timing. A building notice pursuant to s. 106 of the Act will then be issued by the MBS, to the owners of the property and to the owner's corporation. The Act requires the issuing of the building notice to the owners, in this case in excess of 300 notices will be required to be issued, with many of the owners overseas or interstate. This is a large-scale process taking into consideration the whole building notice- order process as prescribed in Part 8 of the Act.

The building notice is a show cause notice which will highlight the issue at hand and propose a method of resolving that issue. It provides the opportunity for the owner to consider the proposal or put forward an alternative proposal which will meet the performance requirements of the BCA.

Once representation/submission has been made a building order will be issued directing the owner of the property as to what actions are required.

8.0 DISCUSSION

8.1 Building Use

The occupancy permit for the above building stipulates that the permitted use of the apartments on the upper floors, in particular levels 6 to 21 is for Residential Apartments. The typical occupancy for each floor set at 36 persons. There are 15 apartments per floor, which would give the average occupancy of 2.4 residents per two bedroom apartments.

Most modern multi-storey apartments have alternative solutions with regards to fire safety systems, sometimes involving multiple BCA clauses. The importance of the fire engineer's design parameters, including occupant characteristics, not being met could lead to unacceptable outcomes.

The ongoing suitability of the occupancy permit is also complicated by the subdivision act. When the building was approved there was one developer and owner, since its completion there is upwards of 300 owners. There is no requirement to review or revise the OP when subdivision occurs. The responsibility of management of the building especially the shared fire safety measure is sometimes unclear as a result of this. .

The MFB highlighted on the night of the fire that the number of occupants for the building far exceeded their expectations.

As a number of the apartments had occupants ranging in 6-8 beds per apartment, the increase in density per floor creates undesirable conditions, for the MFB in evacuating occupiers. Furthermore it also increases potential delays in the safe self-evacuation ability of occupiers in the apartments, who may be hindered by bottlenecking affects.

There are currently discussions within the regulatory areas with regards to the use of apartments and the trend of providing student accommodation with beds being let per bed and what is typically a two bedroom apartment holding only 2-4 persons now accommodating 6-8 occupants. This raises the question of the safety of occupants of those apartments where a larger number are occupied in this manner and the ability of the building to cope with the increased density. Of particular concern is where an alternative solution is utilised to gain a dispensation on the extent of some essential safety measure or other fire safety measures, with the Fire engineer designing the building to a specific number of occupants.

Fire engineering designs are very specific to a building and very specific to its use.

There are also situations where apartments are being used for short term commercial accommodation, with the basic presumption by fire engineers that building occupants are familiar with their surround i.e. either owner occupiers or long term tenants. This complicates a common consideration utilised by fire engineers in determining the minimum requirements for fire safety in that it may impact on speed with which people are able to recognise a warning and to evacuate in a timely manner.

The current legislation makes this part of the occupancy permit, which specifies the maximum occupancy number per floor, almost impossible to police, monitor or require compliance with. Increasingly apartments that are being let as part of a commercial operation, often referred to as 'short-term accommodation'. Some individuals or companies rent apartments on long leases, furnishing them, then renting them out either short-term or on a bed by bed basis. This is facilitated via the use of sites such as AirBnB, Wotif and other internet sites on which owners or small operators can advertise and facilitate bookings.

The owner's corporation and its managers do not have the powers or authority to question the use of the apartments to this degree or able to restrict the access to apartments. In cases where details of the apartments being let in this manner are available and owner's corporation rules specifically

exclude commercial ventures or apartments being used in this manner, enforcement is undertaken through court action to VCAT, which is costly and can extend the time to resolution.

There is also a lack of clarity in the BCA in the definition being unclear as to what classification a short stay commercial accommodation would fall under, would it be a class 2 (residential apartment) or class 3 (residential part of hotel).

The difficulty within the Act and the BCA is that, even if you could classify the building as Class 3 then the onus of proof is difficult. Access rights require a minimum of 24 hours, by which time the owner or leasee would most likely have removed beds, screens etc. in order to show that it compliant with the legislation.

The experience of the MBS office at the City of Melbourne is that when complaints are received of this occurrence, utilising the processes within the Act, and providing the necessary 24 hours' notice only alerts people to the inspection. With stalling tactics, the owner or occupier often have cleared out additional residents and their beds momentarily, until after the inspection, then have them reoccupy.

8.2 Documents Lodged with Council

The responsibility of the PBS/RBS is to lodge with Council a copy of the building permit plus all its associated documentation to prove that the building can be built showing compliance with the Act, Regulations and BCA. Council's role in this matter is one of keeping a register and also that of a record keeper.

A search of Council record was undertaken with the building permit and occupancy permit information retrieved. A schedule of the documentation is provided in Appendix D.

The aim of researching the documentation is to aide in determining the extent of compliance of the building with the Act, Regulations and NCC.

Issues with Documents Lodged:

Issue One: A research of the documentation indicates that there is insufficient details of the wall in the documentation to prove that the wall between the bedroom facing externally and the balcony, that it is non-combustible or what its construction consists of.

Issue Two: There is no evidence that an inspection had highlighted this issue and for that matter as to whether the wall was considered by the fire engineer in their assessment.

Issue Three: The product identified by the MFB indicates that it is a product called Alucobest. Alucobond Plus is an accredited product. Both products look similar in appearance and are not able to be identified by simple visual inspection, in particular from the external appearances. Product specification was not provided for the use of Alucobest product in the documents lodged.

It must be noted that although the documents lodged with Council did not contain details of the above wall construction, the information may be contained with building permit information held by the RBS. This will be a matter for the VBA to investigate as they have the authority to undertake this type of investigation.

8.3 Review of Fire Engineering Report

The MFB will undertake a review and make specific comment if necessary with regards to the Fire Engineering Report.

The deemed to satisfy provisions was covered previously in Part 5.3 above.

8.4 Product Specification and Accreditation

Product accreditation in Australia is hit and miss, with many of the new products being supplied and installed without proper accreditation or review. Common products which may have been accredited are being replicated in part and provided without equivalent accreditation.

Although there is an Accreditation process provided by the Australian Building Codes Board (Codemark) and also one by the Building Regulatory Advisory Committee (BRAC) the process of requesting this information and or providing the information to the relevant building surveyor or supervising architect is rarely done. Taking into consideration the complexity of building today and the variety of building products and methodology it has become almost impossible to police.

This issue has been previously raised in reinforcing rods and wire and also structural steel. With these products it was acknowledged that once the material has reached the site it is too late. The steel industry's only recourse was to distinguish its products from other similar products with stamping.

The MFB has identified in this case that the product used in the construction of the lightweight wall was a product called Alucobest. This product does not have technical specifications readily available on its website for supply in Australia. From a visual inspection after installed it is not possible to distinguish Alucobest from Alucobond. It is noted on the technical specifications for Alucobond Plus that a CodeMark Certificate of Conformity from the Australian Building Codes Board (ABCB) exists (refer to Appendix E).

8.5 Product Substitution

Product substitution on building sites has been known to occur. The due process under contractual requirements is for the builder or sub-contractor to make application to the supervising architect or project manager to change a specified material. A request for variation is usually sought, and a revision to the building permit would be required if it is an essential safety measure or method of construction. The change of the external wall cladding, which is required to be non-combustible construction, would require a variation to the building permit.

Documents lodged with Council by PBS/RBS with regards to building permits and occupancy permits, issued by the Gardner group, show no evidence that a revision was considered with regards to this building methodology.

Further investigation is required by the Victoria Building Authority with regards to this matter if this situation has occurred. Investigative powers of Council or MBS do not extend to compelling builders or private building surveyors to respond to this line of question.

8.6 Recovery Process

Due to the number of residents affected, the incident controller in this case the MFB, enacted the Emergency Management Act and activated the Municipal Emergency Resource Officer (MERO) and in turn requested the Municipal Recovery Manager be alerted to set up a recovery centre.

As this process was the first of this kind to have been enacted by the City of Melbourne it appeared to work well. As with all aspects of emergency management there were areas that can be improved and that will be the subject of a review by City of Melbourne.

Of importance a couple of points that have been raised previously in defining when the MRC is opened up and also what is the definition of recovery. The recovery centre was opened up at Etihad Stadium which is in proximity to the building and with the aide of the Owners Corporation managers information was dispersed to owners and occupiers.

In conjunction with the Owners Corporation Management, their insurers and Make Safe builders the MBS office worked with all to provide assistance and guidance through process. Meetings were attended to answer questions about the processes and what will happen next. In this case the briefings held with Owners Corporation Management, their insurance assessors and other parties with the MBS were crucial so that questions from occupiers were answered as best as possible.

Currently there are 15 apartments that are fire affected and another 80 un-occupiable due to water damage up to mid December 2014.

As there are more and more apartment buildings being built and the urban push to establish these vertical villages increases, the probability of a similar situation occurring is increasing. Not only in Melbourne central but also many suburban municipalities. The questions raised here can be and are applicable to multiple Councils, in particular when you consider the number of people that are affected by one incident.

The role of insurance, similar to bushfire affected properties will also play a large part in what can and cannot be done for recovery.

8.7 Notices and Order Process

The Act in requiring the action to be directed to the owner does not recognise the Owner's Corporation having responsibility for the shared services or its responsibility to act on behalf of owners when an incident like this occurs. It places an impost on local government and the office of the MBS to undertake and manage a substantial amount of files which can result in errors, easily making the process invalid. Similarly it will generate substantial amount of angst amongst owners, not knowing what to do. This places the MBS office in a compromised circumstance of having to provide almost consultative advice about the process unnecessarily.

On face value, it may be viewed by some that for the CoM this is not a large impost, however to firstly identify the owner of the apartments, which may require title searches, and if a company is the owner, which is the case in many situations may also involve a company search. The cost of this is born by Council and also its ratepayers.

In many cases the owners may rely on the Owners Corporation managers to take charge and respond plus take the necessary actions however, this will involve obtaining individual owners consent from each property owner.

The building notice and order requirements contained within s. 106 and s. 111 of the Act are simplistic and are not written to cater for large, complex building or existing older building. Today's complex buildings and use of buildings often requires detailed review and assessments of the building to be undertaken prior to the direction given. The prescribed structure of the Notices-Orders are more suited to where a building permit has been issued for a domestic construction and during the course of construction the non-compliance works have been observed and direction given to bring back into compliance with the permit documentation.

The emergency orders also have their limitations in particular with s. 103(2), where it limits the ability to prohibit occupation for 48 hours. This then requires subsequent EOs to be issued every 48 hours, even though the building may be unsafe. If a nightclub has defective safety systems then prohibiting their use for this small duration of time does not even allow the time for contractors to come in and undertake the works. The incentive for owners or operators to undertake the work is negated as they just need to wait out the time.

As highlighted above in the 'Next Step' the utilization of the Notices- Order process will make this a large-scale process, having to issue building notices then building orders to over 300 owners, which will stretch resources. This is only one building within the City of Melbourne, and highlights the difficulty experienced by the MBS office in dealing with large and complex buildings.

8.8 Insurance

As the BN and BO will be directed at the owner of the building which is the individual owners, a critical question that will be raised is, 'Who pays? In particular as the construction of the building and the occupancy permit was issued in 2012

The current domestic building contract act 1995 directs that for domestic construction up to rise in storey of 3, domestic builder warranty insurance is required. This is currently what is described as insurance of last resort, i.e. that the builder has to be deceased or bankrupt or similar. This is different to an older government funded scheme which required insurance for all domestic buildings, which included this type of building and it was an insurance of first point of call. However in this case due to the size of building it is not required to be covered by the current warranty type insurance.

This is an issue that the regulators and government need to review and revisit, especially if the method of resolving this issue will rely on the courts, which will mean that the actual time to bring the building into compliance will be further frustrated.

9.0 CONCLUSION

The fire that occurred at the Lacrosse building was well managed during the course of the emergency and all parties involved came together and dealt with the issues at hand. Occupants were alerted and evacuated, systems worked with no fatalities or serious injuries, temporary accommodation was set up and provided by all agencies and emergency building issues that could be dealt with were done so within good time frames to allow partial occupation under controlled circumstances.

The fire intensity and how it spread vertically through the building caused further investigation into why was it not contained. Inspection of the building, after the fire brought focus upon the external wall cladding which was identified and sent for testing by the MFB. The test results from the CSIRO contained within the PIA, has confirmed that the wall cladding system (Alucobest) is not non-combustible. This raised further questions of where did the regulatory system go wrong in preventing this from occurring. Is it accreditation of product, is it the standards, is it the process of building approval to occupancy permit or is it practitioner failure?

Also highlighted as a result of observations after the fire is the issue of occupancy numbers within apartments and possible increased density. Is this a problem for the future and are our building codes and standards designed to accommodate this increase in density or short term use. Also does our regulatory framework have the adequate mechanisms to police and control these functions, if there is a need to do so?

In further considering the regulatory system required to bring the building into compliance it highlights that the provisions of the Act and Regulations are not suited to dealing with large, complex and existing buildings and how we are using these buildings today. This results in frustration and an additional burden for local government and property owners.

A flow on question back to the regulatory framework will also be, who pays for the fix or should there have been insurance to cover this.

The City of Melbourne should advocate that there be a review of the Building Act 1993, building regulations and the process contained to enable our building regulatory framework to cope not only with current complex buildings but also existing buildings and possible future building product or systems developments. As an example, the concept of prefabricated modules is being experimented with, which depending on where they are manufactured may throw into question what standards they are following and how do we ensure that they are compliant with our standards.

APPENDIX A – BUILDING PERMIT-STAGE 7

gardnergroup

[redacted]

[redacted] Suite 15, 574 Plummer Street
Port Melbourne Victoria 3207 Australia P 03 9682 2400 F 03 9682 2533 www.gardner.com.au

TRANSMITTAL ADVICE BD10/1011

PROJECT: LACROSSE APARTMENT DEVELOPMENT - STAGE 7: ALL ARCHITECTURAL AND SERVICES WORKS TO COMPLETION
673 - 683 LATROBE STREET,
DOCKLANDS VIC 3008

REFERENCE: 014166

TO: L.U. SIMON BUILDERS PTY LTD
[redacted]

ATTENTION: [redacted]

FROM: [redacted]

DATE: 12 December 2011

Method of Transmittal
- ☑ Mail
- ☐ Hand Delivered
- ☐ Courier
- ☐ Other

Reason for Transmittal
- ☑ Records
- ☐ Information
- ☐ Approval
- ☐ Comment

Description of Document

Dino,

Please find enclosed Amended Stage 7 Building Permit and other associated documents for the above mentioned project.

[redacted]

[redacted] services
13 DEC 2011

Copy to Council: ($34.00 Lodgement Fee Enclosed)

Attention: **BUILDING DEPARTMENT**
City of Melbourne

[redacted]

Copy to Owner: (Original Building Permit Only)

Attention: [redacted]

Please quote our reference number on all return correspondence

ACN 056 178 262 ABN 40 699 770 739

gardnergroup

GARDNER GROUP PTY LTD Suite 15, 574 Plummer Street Port Melbourne Victoria 3207
P 03 9682 2400 F 03 9682 2533 www.gardner.com.au

Building Act 1993
BUILDING REGULATIONS 2006
Regulation 313
Form 2

AMENDED BUILDING PERMIT

(UPDATE TO STRUCTURAL DRAWINGS)
No. 16541/100133/7
Our Reference No 14166F2g

Issue To

Agent of Owner	L.U. SIMON BUILDERS PTY LTD		
Postal Address	[redacted]	Post Code	[redacted]
Address for serving of documents	AS ABOVE		
Contact Person	[redacted]	Telephone	[redacted]

Copy To

Owner[2]	675 LATROBE STREET PTY LTD C/- CHARTER HALL		
Address	[redacted]	Post Code	3000
Contact Person	[redacted]	Telephone	[redacted]

Property/Project Details

Project Description	LA CROSSE APARTMENT DEVELOPMENT						
Address	673-683 LATROBE STREET, DOCKLANDS 3008						
Lot/s	1	LP/PS	431464P	Volume	10494	Folio	618
Crown Allotment	PART 1D	Section	98	Parish	NORTH MELBOURNE	County	-
Municipal District	CITY OF MELBOURNE						

Builder

Name	L.U. SIMON BUILDERS PTY LTD	Telephone	[redacted]
Address	[redacted]	Post Code	[redacted]

Details of Building Practitioners/Architect
(A) To be engaged in the building work[1]

Name	Registration No	Category/Class
[redacted]	[redacted]	COMMERCIAL BUILDER - UNLIMITED

(B) who were engaged to prepare documents forming part of this application for this permit[4]

Name	Registration No	Category/Class
[redacted]	[redacted]	CIVIL ENGINEER - STRUCTURAL
[redacted]	[redacted]	ARCHITECT
[redacted]	[redacted]	ELECTRICAL ENGINEER
[redacted]	[redacted]	MECHANICAL ENGINEER
[redacted]	[redacted]	MECHANICAL ENGINEER
[redacted]	[redacted]	CIVIL ENGINEER

Nature of Building Work

- ☑ New Building
- ☐ Demolition
- ☐ Alteration
- ☐ Removal or re-erection
- ☐ Extension
- ☐ Change of Use
- ☐ Fitout
- ☐ Other:

ET $34 -
13 DEC 2011
3622427/15655

Details of Relevant Planning Permit

Planning Permit No. **2007/0622A**		Date of Grant of Planning Permit	**8 APRIL 2008**
2007/0622A		Date of Grant of Amended Planning Permit	**24 MAY 2010**

Building Classification

Part of Building **WHOLE** BCA Classification **2, 6 & 7a** Use **RETAIL, CARPARK, RESIDENTIAL**

Building Details

Stage of Work Permitted	**STAGE 7: ALL ARCHITECTURAL & SERVICES WORKS TO COMPLETION**		
Total Floor Area of New Building Work	**N/A**	Ownership	**PRIVATE**
Allotment Area	**N/A**	External Wall Material	**MASONRY**
No of Storeys	**N/A**	Frame Material	**CONCRETE**
Cost of Building Work for previous Stage(s)	**$29,818,687.57**	No of Dwellings Demolished	
Cost of Building Work for this Stage	**$66,690,725.43**	No of New Dwellings	
Building Levy applicable to this permit	**$85,364.10**	No of Existing Dwellings	
Total value of Building Work	**$96,509,413.00**	Floor Material	**CONCRETE**
		Roof Cladding Material	**N/A**

Inspection Requirements

The mandatory inspection notification stages are as follows. **Gardner Group must be contacted for inspection bookings**

- ☑ Prior to placing a footing (eg foundation/pre slab);
- ☑ Prior to pouring all insitu reinforced concrete (eg slab or trench steel, columns, beams, etc);
- ☑ Completion of framework (steel, timber etc); and
- ☑ Final, upon completion of all building work

Occupation or Use of Building

- ☐ A Certificate of Final Inspection is required prior to the occupation or use of this building
- ☑ An Occupancy Permit is required prior to the occupation or use of this building
  - ☑ whole If an occupancy permit is required, the permit is required for the whole/part of the building in respect of which the building work is carried out.
  - ☐ part

Commencement and Completion

This building work must commence by: **7 DECEMBER 2012**

This building work must be completed by: **21 MAY 2013**

Conditions of Building Permit

Refer to Annexure B for a list of conditions which apply to this Building Permit.

Relevant Building Surveyor

Name

Signature

Registration No [redacted]

Date of Issue of Stage 1 Building Permit	**21 MAY 2010**
Date of Issue of Stage 2 Building Permit	**4 JUNE 2010**
Date of Issue of Amended Stage 1 Building Permit	**18 JUNE 2010**
Date of Issue of Amended Stage 2 Building Permit	**18 JUNE 2010**
Date of Issue of Stage 3 Building Permit	**17 AUGUST 2010**
Date of issue of Stage 4 Building Permit	**27 SEPTEMBER 2010**
Date of issue of Stage 5 Building Permit	**28 JANUARY 2011**
Date of issue of Stage 6 Building Permit	**18 MARCH 2011**
Date of issue of Stage 7 Building Permit	**6 JUNE 2011**
Date of issue of this Amended Stage 7 Building Permit	**7 DECEMBER 2011**

Annexures

Annexure A	Approved Documents
Annexure B	Building Permit Conditions
Annexure C	Building Surveyor's Comments
Annexure D	Essential Safety Measures Maintenance Requirements

Note 1: Under regulation 317 the person in charge of the carrying out of building work on an allotment must take all reasonable steps to ensure that a copy of this permit and one set of any approved plans, specifications and documents are available for inspection at the allotment while the building work is in progress. They must also take all reasonable steps to ensure that the registration numbers and contact details of the builder and building surveyor and the number and date of issue of this permit are displayed in a conspicuous position accessible to the public before and during the building work to which this permit applies.

Note 2: Under regulation 318 an owner of a building or land, for which a building permit has been issued, must notify the relevant building surveyor within 14 days after any change in the name or address of the owner or of the builder carrying out the building work. The penalty for non-compliance is 10 penalty units.

Note 3: Include building practitioners with continuing involvement in the building work.

Note 4: Include only building practitioners with no further involvement in the building work.

APPENDIX B- OCCUPANCY PERMIT

gardnergroup

BUILDING SURVEYORS | CONSULTANTS

GARDNER GROUP PTY LTD Suite 15, 574 Plummer Street
Port Melbourne Victoria 3207 Australia P 03 9682 2400 F 03 9682 2533 www.gardner.com.au

Document Barcode
201119514

TRANSMITTAL ADVICE

PROJECT: **LACROSSE APARTMENT DEVELOPMENT**
673 - 683 LATROBE STREET, DOCKLANDS VIC 3008

REFERENCE: 14166

TO: **L.U. SIMON BUILDERS PTY LTD**
[redacted]

ATTENTION: [redacted]

FROM: [redacted] **SIGNED:**

DATE: 23 JULY 2012

Method of Transmittal

- ☑ Mail
- ☐ Courier
- ☐ Hand Delivered
- ☐ Other

Reason for Transmittal

- ☑ Records
- ☐ Approval
- ☐ Information
- ☐ Comment

Description of Document

Dino,

Please find enclosed a copy of the Occupancy Permit and Alternative Solution reports pertaining to the above mentioned project.

Regards,
[redacted]

Copy to Council:

Attention: **BUILDING DEPARTMENT**
City of Melbourne
[redacted]

Copy to Owner:

Attention: [redacted]
675 LATROBE STREET PTY LTD C/-
CHARTER HALL
[redacted]

Please quote our reference number on all return correspondence

ACN 056 178 262 ABN 40 699 770 739

gardnergroup

GARDNER GROUP PTY LTD Suite 15, 574 Plummer Street Port Melbourne Victoria 3207
P 03 9682 2400 F 03 9682 2533 www.gardner.com.au ABN 40 693 770 739 ACN 056 178 262

BUILDING SURVEYORS | CONSULTANTS

FORM 6
Building Act 1993
BUILDING REGULATIONS 2006
Regulation 1005

OCCUPANCY PERMIT

Ref No: 14166F6a

Property Details

Project Description	**LACROSSE APARTMENT DEVELOPMENT**						
Address	**673 - 683 LATROBE STREET, DOCKLANDS VIC 3008**						
Lot/s	**1**	LP/PS	**431464P**	Volume	**10494**	Folio	**618**
Crown allotment	**PART 1D**	Section	**98**	Parish	**NORTH MELB**	County	-
Municipal District	**CITY OF MELBOURNE**						

Building Details

Part of building	Permitted Use	BCA Class	Maximum permissible floor live load	Maximum number of people to be accommodated
Ground floor	Residential lift lobby, carpark ancillary,plant/services, storage	2, 7a	2.5Kpa (7a)	8
Level 0.5	Residential lift lobby, carpark, plant/services, storage	2, 7a	2.5Kpa (7a) 4Kpa (lift lobby)	61
Level one	Residential lift lobby, carpark, building managers office, amenities, external lift lobby (retail tenancies are excluded from this permit).	2, 7a	2.5Kpa (7a) 4Kpa (lift lobby)	49
Level two	Residential entry lobby, carpark, retail plant, storage, podium (retail tenancies are excluded from this permit).	2, 7a	2.5Kpa (7a) 5Kpa (retail & podium areas) 4Kpa (lift lobby)	35
Level three	Residential apartments inclusive of: Tower: 1-34 North Pod: N35 - N38 South Pod: S39 - S43	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	 74 12 16
Level four	Residential apartments 1-15, pavilion, swimming pool, pool deck,	2, 10b	2Kpa (apts & corridors) 4Kpa (lobby & pool deck)	36
Level five	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level six	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level seven	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level eight	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36

Level nine	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level ten	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level eleven	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twelve	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level thirteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level fourteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level fifteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level sixteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level seventeen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lobbies)	36
Level eighteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level nineteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twenty	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twenty one	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lobbies)	36
Roof level	Plant (Ancillary)	2	0.5Kpa (L4) 1.5Kpa (L22)	N/A

* Complete this portion only if an occupancy permit is required under Division 1 of Part 5 of the **Building Act 1993.**

Alternative Solutions

Alternative Solutions were used to determine compliance with the following Performance Requirements of the BCA that relate to this project:

Item 1: BCA Clause F3.1 & FP3.1– Height of rooms and other spaces
To permit a reduced vertical clearance of 2060mm in lieu of the required 2100mm to carpark space on level 1, and 1450mm beneath car park ramp on level 1.

Item 2: BCA Clause F2.1 & FP2.2 Provision of sanitary facilities in Residential buildings
To permit deletion of laundry troughs in the sole occupancy units.

Item 3: BCA Spec C1.1 & CP2 Type A Fire resisting construction
To permit the garbage shaft to be lined with a combustible material in lieu of non combustible construction.

Fire Engineering

Item 1: C1.1(Spec C1.1) CP2, CP8 Reduction levels required to non load bearing building elements and compartmentation have been reduced to 60 minutes for residential areas. The provision of non combustible construction to services shafts in lieu of having an FRL.
Item 2: C1.1 (c) CP2, CP8, Shaft walls are required to have fire resistance levels in accordance with Type A construction which has been negated for the building.
Item 3: C1.1 CP12, CP2, Shaft walls between apartment envelopes and bounding corridors has been negated.
Item 4: C1.1 CP1, CP2,Fire rating to retail area to be 90 minutes.
Item 5: C1.1 CP1, CP2, CP8 The provision of fire rated construction to GPO's to be deleted.
Item 6: C1.1 (Spec C1.1), C3.15, CP1, CP2, CP8 Smoke treatment to service penetrations through structure in lieu of fire rated treatment.
Item 7; C2.14, DP4, DP5, EP2.2 Corridor lengths to exceed 40m without provision
Item 8: C3.8, CP2, CP4, CP8, DP5, Doors to fire isolated stairway at the residential floors to be solid core in lieu of having FRL -/60/30.
Item 9: C3.11, CP2, CP4, CP8 Doors to apartment entries to be self closing solid core in lieu of having an FRL -/60/30.
Item 10: S1.7(b) & (c), DP4, DP5 Stairwells discharges internally in lieu of being direct to open space.
Item 11: D1.4, DP4, DP5, DP6 Distance of travel from sole occupancy unit entry doors to the nearest exit or a point of choice to alternate exit not permitted to exceed 6m. Travel distance with the proposed layouts to a point of choice to alternate exit is approx. as follows:

Floor	Travel Distance
Level L03	40m
Level L04	16m
Level L05	16m
Level L06	16m
Level L07	16m
Level L08	16m
Level L09	16m
Level L10	16m
Level L11	16m
Level L12	16m
Level L13	16m
Level L14	16m
Level L15	16m
Level L16	16m
Level L17	16m
Level L18	16m
Level L19	16m
Level L20	17m
Level L21	17m

Floor	Travel Distance
Level L00	20m to a point of choice and total travel of 45m to the nearest exit.
	40m to a point of choice and 60m to the nearest exit from Storeroom 2 (grids G/9)
Level L0.5	20m to a point of choice and total travel of 50m to the nearest exit.
	35m to a point of choice and 83m to the nearest exit from the Bicycle Store (grids G/9)
Level L01	20m to a point of choice and total travel of 40m to the nearest exit.
	57m to a point of choice and 70m to the nearest exit from grid M/13.
Level 02	40m to a point of choice and total travel of 50m to the nearest exit.

Item 13: E1.5, EP1.4 External sprinkler protection to overhangs, balconies and the like to be deleted (MFB notification required).

Item 14: E1.5, EP1.4 Hybrid sprinkler system to carpark wherein sprinkler coverage is addressed directly to fuel source i.e. car bays. This results in deletion of dedicated sprinkler range pipes over driveways/carriage routes (MFB notification required).

Item 15: E2.2, EP2.2 Pressurisation fans to be temperature rated has been negated. Cabling to fans (smoke management) to be non fire rated.

Item 16: E2.2, EP2.1, EP4.3 Audible alert arrangements under GFA designed to achieve the outcomes required by EP2.1. Alert/occupant warning system not subject to strict code application subject to occupants receiving early warning within apartments/bedroom areas. Provision for occupant warning system in lieu of EWIS.

Item 17: E2.2, EP1.3, EP2.2, EP2.1, EP4.1, EP4.2, EP4.3 Smoke management sub-system based design outcomes to meet the performance criteria of EP2.2

Building Appeals Board Determinations

Item 1: BCA Clause D2.13 & DP1 Goings & Risers
To permit the external podium stair to have 19 risers ion lieu of the prescribed maximum of 18 risers.

Item 2: BCA Clause D2.13 & DP1 Goings & Risers
To permit the external podium stair to have tread dimensions of 900mm in lieu of the prescribed maximum dimension of 355mm.

Item 3: BCA Clause D2.13 & DP1 Goings & Risers
To permit the external stair (stair 13) to have tread dimensions of 565mm & 1055mm in lieu of the prescribed maximum dimension of 355mm.

Reporting Authorities

The following bodies were reporting authorities for the purposes of the application for this permit in relation to the matters set out below:

City of Melbourne

Item No:	Item No:	Regulation	Status
1	To permit the construction of a new multi storey building on an allotment that is in an area liable to flooding and uncontrolled overland drainage	802	Approved

Metropolitan Fire Brigade

Item No:	Matter Reported on:	Regulation	Status
1	BCA Clause E1.8 Fire Control Centres: To permit the location of the fire control room to be accessed from Latrobe Street.	1003	Approved
2	BCA Clause E1.3 To permit the location and arrangement of booster assembly on Latrobe Street	1003	Approved
3	BCA Clause E1.3 To permit the location of the fire pump room as shown on the approved drawings.	1003	Approved
4	BCA Clause E1.5 To permit the location of the sprinkler control valves sets as shown on the approved drawings.	1003	Approved
5	BCA Clause E1.5 To permit the locations of the hydrant ring main within stairwells which has a fire rated enclosure but does not comply as a fire isolated stair with respect to discharge, and to allow the hydrant ring main to be provided within a stairwell.	1003	Approved
6	BCA clause E1.3 To permit fire hydrant coverage shortfalls as shown on the approved drawings.	1003	Approved
7	BCA Clause E1.4 To permit fire hose reel coverage shortfalls as shown on the approved drawings.	1003	Approved
8	BCA Clause E1.3 To permit the location of hydrants and hose reels as shown on the approved drawings.	1003	Approved
9	BCA Clause E1.3 To permit the installation of a magflow water meter on the fire service not withstanding the requirements of AS2419	1003	Approved
10	BCA Clause E1.3 To permit a combined sprinkler hydrant service.	1003	Approved
11	BCA Clauses E.12 & E13 To permit a Grade 2 water supply in lieu of Grade 1 supply	1003	Approved

12	BCA Clauses E1.2 & E1.5 To permit the working pressure of the fire services ring main to be increased from 1000Kpa to 1200Kpa	1003	Approved
13	BCA Clause E.1.4 To permit the deletion of fire hose reels throughout the residential floors as shown on the approved drawings.	1003	Approved
Notification item:	Deletion of Sprinklers: To advise of the deletion of sprinklers to external soffits, canopies and the like.	1003	Accepted
Notification item:	BCA Clause E1.5 Car Park Sprinkler Protection: To advise of the deletion of the dedicated sprinkler protection to eh vehicular ramps and aisle wars to the car park levels in lieu of providing such dedicated protection prescribed under AS2118.1	1003	Accepted

Conditions

Occupation is subject to the following conditions:

1. Essential safety measures must be maintained in accordance with the maintenance requirements set out in Annexure A of this permit.

Approved location for display of Occupancy Permit

The approved location for display of this permit for the purposes of regulation 1007 is in the Building Managers Office

Suitability for Occupation

The parts of the building to which this permit applies are suitable for occupation.

Building Permit Details

Building Permit Numbers to which this Occupancy Permit relates:	Dates of Relevant Building Permits:
16541/100133/1	**21 MAY 2010**
16541/100133/2	**4 JUNE 2010**
16541/100133/1 Amended	**18 JUNE 2010**
16541/100133/2 Amended	**18 JUNE 2010**
16541/100133/3	**17 AUGUST 2010**
16541/100133/4	**27 SEPTEMBER 2010**
16541/100133/5	**28 JANUARY 2011**
16541/100133/6	**18 MARCH 2011**
16541/100133/7	**6 JUNE 2011**
16541/100133/7 Amended	**7 DECEMBER 2011**

Relevant Building Surveyor

Signature of Relevant Building Surveyor 

Name of Relevant Building Surveyor

Registration No.

Date of Final Inspection: **13 JUNE 2012**

Date of Issue: **13 JUNE 2012**

Annexure A

ESSENTIAL SAFETY MEASURES MAINTENANCE REQUIREMENTS

Reference No.: 14166F6a

Essential Safety Measures will be required to be maintained under conditions of the Occupancy Permit for this project. The following essential safety measures are required to be maintained to the prescribed frequency and levels of performance:

ESSENTIAL SAFETY MEASURES – BUILDING FIRE INTEGRITY

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Building elements required to satisfy prescribed fire resistance levels	Section C, D1.12 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection for damage, deterioration, or unauthorised alteration
Materials and assemblies required to satisfy prescribed fire hazard properties	C1.10 & C1.10A	Annual Inspection for damage, deterioration, or unauthorised alteration
Elements required to be non-combustible, provide fire protection, compartmentation or separation	C2.5 to C2.14, C3.3, C3.11, D1.7 – D1.8, E1.3 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection for damage, deterioration, or unauthorised alteration
Wall-wetting sprinklers (including doors and windows required in conjunction with wall-wetting sprinklers)	C3.4, C3.8, C3.11, D1.7, D1.8 G3.8 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	As per AS 1851 – 2005 Section 2 if Sprinkler system installed or every six months to ensure compliance, no damage or deterioration and water supply availability
Fire doors (including sliding fire doors and their associated warning systems) and associated self-closing, automatic closing and latching mechanisms	C2.12 to C2.13, C3.4 to C3.8, C3.10 to C3.11 D1.7 to D.18, D1.12 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every three months as per AS 1851 – 2005 Section 17 check operation of handles, closers and electronic strikes
Solid core doors and associated self-closing, automatic closing and latching mechanisms	C3.11 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection for damage, deterioration, and check operation of closers, handles and electronic strikes.
Fire-protection at service penetrations through elements required to be fire-resisting with respect to integrity or insulation, or to have a resistance to the incipient spread of fire	C3.12, C3.13, C3.15 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every six months as per AS1851 – 2005 Inspection for damage, deterioration, or unauthorised alteration.
Fire protection associated with construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation	C3.16	Every six months as per AS1851 – 2005 Inspection for damage, deterioration, or unauthorised alteration.
Smoke doors and associated self-closing, automatic closing and latching mechanisms	Specification C2.5, D2.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every three months as per AS1851 – 2005. Check operation of closers, handles and electronic strikes.

ESSENTIAL SAFETY MEASURES – MEANS OF EGRESS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Paths of travel to exits	D1.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Discharge from exit (including paths of travel from open spaces to the public roads to which they are connected)	D1.7, D1.9 to D1.11, D2.12, Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Exits (including fire-isolated stairways and ramps, non-fire isolated stairways and ramps, stair treads, balustrades and handrails associated with exits, and fire-isolated passageways)	D2.2 to D2.3, D2.8 to D2.11inc., D2.13, D2.16 to D2.17 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Smoke lobbies to fire-isolated exits	D1.7, D2.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection for damage, deterioration, or unauthorised alteration
Doors (other than fire or smoke doors) in a required exit, forming part of a required exit or in a path of travel to a required exit, and associated self-closing, automatic closing and latching mechanisms	D1.6, D2.19 to D2.21, D2.23 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every three months to ensure doors are intact, operational and fitted with conforming hardware.

ESSENTIAL SAFETY MEASURES – SIGNS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Signs warning against the use of lifts in the event of fire	E3.3	Annual Inspection to ensure the warning sign is in place and legible
Signs, intercommunication systems, or alarm system on doors of fire-isolated exits stating that re-entry to storey is available	D2.22 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection to ensure the warning sign is in place and legible
Signs alerting persons that the operation of doors must not be impaired	D2.23 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual Inspection to ensure the warning sign is in place and legible

ESSENTIAL SAFETY MEASURES – LIGHTING

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Exit signs (including direction signs)	D1.12, E4.5, E4.6, E4.8, AS/NZS 2293.1	Every 6 months to AS 2293.2-2005
Emergency lighting	E4.2, E4.4, AS/NZS 2293.1	Every 6 months to AS 2293.2-2005

ESSENTIAL SAFETY MEASURES – FIRE FIGHTING SERVICES AND EQUIPMENT

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Fire hydrant system (including on-site pump set and fire-service booster connection)	E1.3, AS 2419.1 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Weekly to AS1851 – 2005 Section 4 where pumps are installed or six monthly to AS1851 – 2005 Section 4.
Fire hose reel system	E1.4, AS 2441 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1) Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Every six months to AS1851 – 2005 Section 14.
Sprinkler system	E1.5, H1.2, G3.8, AS 2118.1 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1) Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Weekly to AS1851 – 2005 Section 2
Portable fire extinguishers	E1.6, AS 2444 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1) Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Every six months to AS1851 – 2005 Section 15.4
Fire control centres (or rooms)	E1.8 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1) Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Annual inspection to ensure compliance of construction and contents with BCA
Provisions for special hazards	E1.10 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Inspection regime to be developed in consultation with designer utilising appropriate Australian Standards, manufacturer specifications, etc.

ESSENTIAL SAFETY MEASURES – AIR HANDLING SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Automatic air pressurisation systems for fire-isolated exits	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Zone smoke control system	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Automatic smoke exhaust system	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Automatic smoke and heat vents (including automatic vents for atriums)	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Air handling systems that do not form part of a smoke hazard management system and which may unduly contribute to the spread of smoke	E2.2	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Miscellaneous air-handling systems covered by Sections 5 and 11 of AS/NZS 1668.1 serving more than one fire compartment	E2.2	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Carpark mechanical ventilation system	F4.11, AS 1668.2	Frequency as nominated by manufacturer on label attached to equipment in accordance with AS1851 – 2005 Section 18

ESSENTIAL SAFETY MEASURES – AUTOMATIC FIRE DETECTION AND ALARM SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Smoke and heat alarm system	Clause 3 of Specification E2.2a	As prescribed in AS1851 – 2005 Section 7. Monthly inspection to test operation. Replace battery or unit as necessary.
Smoke and heat detection system	Clause 4 of Specification E2.2a	Monthly as prescribed in AS1851 – 2005 Section 6

ESSENTIAL SAFETY MEASURES – OCCUPANT WARNING SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Emergency warning and intercommunication system	E4.9, Clause 6 of Specification G3.8	Monthly to AS1851-2005 Section 10
Building occupant warning system	Clause 8 of Specification E1.5, Clause 6 of Specification E2.2a	Monthly as prescribed AS1851 – 2005 section 9

ESSENTIAL SAFETY MEASURES – LIFTS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Stretcher facilities in lifts	E3.2	Annual inspection to ensure compliance of facilities with BCA
Emergency lifts	E3.4	As per requirements of AS 1735 Periodic inspection as per manufacturers specification, however no less than annual inspection
Passenger lift fire service controls	E3.7	Periodic inspection as per manufactures specification, however no less than annual inspection.

ESSENTIAL SAFETY MEASURES – STANDBY POWER SUPPLY SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Standby power supply system	E3.4, Clause 6 of Specification G3.8	Every six months test to ensure auxiliary power is operable. For diesel engines – test as prescribed in AS 1851 - 2005 based on proving electrical load in lieu of flow/ pressure for pump sets

ESSENTIAL SAFETY MEASURES – ACCESS FOR MAINTENANCE

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Access for maintenance of all plant, equipment and components as required by BCA Part I2.	J8.2, I2.2	Annual inspection to ensure access is provide and components of services are maintained to perform to a standard not less than they were originally required to achieve.

ESSENTIAL SAFETY MEASURES – MECHANICAL VENTILATION

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Air conditioning systems	F4.5, AS 1668.2-1991, BCA E2.2	Quarterly to AS 1851 – 2005, AS 3666 - 1995

APPENDIX C- PHOTOGRAPH OF INSPECTION 25 NOVEMBER 2014

	
Living room cordoned off to create additional bedroom	
	
Multiple Beds in two bedroom apartment.	

	
Wall between bedroom and balcony. Construction lightweight wall with steel studs, aluminium type external cladding plasterboard to internal. Material stored on balcony.	
	
External wall at upper height	

View of damaged wall and smoke detectors made inoperable. Others were covered over.

Photo of base of wall and penetrations plus overhang past balcony edge

APPENDIX D- SCHEDULE OF DOCUMENTS LODGED WITH COUNCIL.

CoM Reference No.	DM reference	Documentation Type	Reference No.	Date of Issue	Other Descriptor
BD10-1011-P1	DM:5802644	Section 80	14166	13/05/2010	
"	DM:5806303	Section 80	14166	19/05/2010	
"	DM:5824096	Building Permit - Stage 1	16541/100133/1	21/05/2010	Level 00 & Level 0.5 ;
"	n/a	Additional Docs for Stage 1			Application for a Building Permit; Property Enquiry Certificate (28/3/2008); Melbourne Water Flooding letter; Plan of Subdivision - PS434050P ; Annual Contract Works/Plant Equipment Insurance (issued: 29/6/2009, expires 4pm, 30/6/2010) ; Annual Third Party Public Liability Insurance (issued: 29-6-2009, expires: 4pm.30/6/2010) ; Department of Planning and Community Development Planning Scheme Permit Application: #2007/0622A (19/04/2010) ; Report on Environmental Site Assessment.
"	DM:5843371	Building Permit - Stage 2	16541/100133/2	4/06/2010	Level 00 & Level 0.5;
"	n/a	Additional Docs for Stage 2			Application For A building Permit; Certificate of Compliance - Design (1/6/10); Precast Pile Design Submission; Retaining Walls - Continuous Flight Auger Pile Design Submission;
"	DM:5992801	Building Permit - Stage 3	16541/100133/3	17/08/2010	Level 00;
"	n/a	Additional Docs for Stage 3			Application For A building Permit; Certificate of Compliance - Design (4/8/10); Structural Computations Pile Cap Design for Early Work Package (May 2010);

"	DM:5868195	Amended Building permit - Stage 1	16541/100133/1 AMENDED	18/06/2010	
"	DM:5868033	Amended Building permit - Stage 2	16541/100133/2 AMENDED	18/02/2010	

BD10-1011-P2	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P3	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P4	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P5	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5

BD-10-1011-P6	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 1 Floor Slab (August 2010) - carried over 2 files: BD10-1011-P6 > BD10-1011-P7
BD-10-1011-P7	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 1 Floor Slab (August 2010) - carried over 3 files: BD10-1011-P6 > BD10-1011-P7 ; Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-

					P8
BD-10-1011-P8	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-P9 Stops at page 11 of 23 and continues page 12 of 23 onwards at the back of file BD10-1011-P9.

BD10-1011-P9	6057459	Building Permit - Stage 4	16541/100133/4	27/09/2010	Stage 4: Structural works up to Level 4
"	N/A	Additional Docs for Stage 4			Application for a Building Permit ; Certificate of Compliance-Design (13/9/10)
"	6291309	Building Permit - Stage 5	16541/100133/5	28/01/2011	Stage 5: Structural from Level 2-19
"	N/A	Additional Docs for Stage 5			Application for a Building Permit ; Department of Planning and Community Development Planning Scheme Permit application No. 2007/0266A ; Certificate of Compliance-Design 29/11/10, 6/10/10, 13/10/10, 11/11/10, 8/12/10, 28/1/11, 29/11/10, 23/12/10, 24/1/11 ; ON CD: Computations Level 2 Roof ; ON CD: Computation L1-L3
"	6291309	Building Permit - Stage 6	16541/100133/6	18/03/2011	Stage 6: Structural Works from Level 20-ROOF & Level 4 only
"	n/a	additional Docs for Stage 6			Application for a building permit ; Certificate of Compliance (Amended) on 2/12/11 ; Certificate of Compliance-Design (10/3/11) ON CD: Computations Level 2 ; ON CD: Computations Level 1-3
"	6744489	Building Permit - Stage 7	16541/100133/7	2/06/2011	Stage 7: All Works To Completion
"	n/a	additional docs for Stage 7			Structural Computations - Steel Work (Amended) Application for a Building Permit ; MFB Report NO: 1100282 ; Fire Engineering Report ; On CD: Arch

					Specs, Fire Engineering, Services Specs ;
"	n/a	Structural Computations for Building Permit - Stage 4 continued..			Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-P9 continues page 12 of 23 onwards at the back of file BD10-1011-P9.
"	6892829	Building Permit - Stage 7 Amendment	16541/100133/7 (amendment)	7/12/2011	Stage 7: All Architectural and Services Works to Completion

BD10-1011-P10	7333835	Occupancy Permit	14166F6a	13/06/2012	Relates to Building Permits: 16541/100133/1-7 & Amended Permits for Stage 1,2 & 7 Part of Building: Ground Floor > Level 21 & Roof includes Essential Safety Measures ;
"	n/a	Alternative Building Solutions under the Performance Provisions of BCA 2009			Graduate certificate of performance based building and fire codes
"	n/a	inspection record	16541/100133 Stages 1-7		
"	n/a	Additional docs for Occupancy Permit	`		Application for occupancy Permit ; Fire Safety System Report (May 2012) ; Certificate of Electrical Safety
"	7230362	Certificate of Final Inspection	14166F7a	7/06/2012	Level 1 & Level 2 (RETAIL)
"	n/a	Additional docs for Certificate of Final Inspection			

APPENDIX E- BCA EXTRACT

PART A0 APPLICATION

A0.1 Adoption

The dates of adoption of the Building Code of Australia (Volume One) are shown in the "History of BCA Adoption" division at the end of this Volume.

A0.2 BCA Volumes

(a) The Building Code of Australia consists of two volumes, Volume One and Volume Two.
(b) This is Volume One of the Building Code of Australia which contains the requirements for—
(i) all Class 2 to 9 buildings; and
(ii) access requirements for people with a disability in Class 1b and 10a buildings; and
(iii) certain Class 10b structures including access requirements for people with a disability in Class 10b *swimming pools*.
(c) Volume Two contains the requirements for—
(i) Class 1 and 10a buildings (other than access requirements for people with a disability in Class 1b and 10a buildings); and
(ii) certain Class 10b structures (other than access requirements for people with a disability in Class 10b *swimming pools*); and

(iii) Class 10c *private bushfire shelters*.

A0.3 BCA Structure The structure of the BCA comprises the following as shown in **Figure A0.3**:

(a) The *Objectives*.
(b) The *Functional Statements*.
(c) The *Performance Requirements* with which all *Building Solutions* must comply.
(d) The *Building Solutions*.

Figure A0.3 — BCA Structure

A0.4 Compliance with the BCA

A *Building Solution* will comply with the BCA if it satisfies the *Performance Requirements*.

A0.5 Meeting the Performance Requirements

Compliance with the *Performance Requirements* can only be achieved by—

(a) complying with the *Deemed-to-Satisfy Provisions*; or

(b) formulating an *Alternative Solution* which—
(i) complies with the *Performance Requirements*; or
(ii) is shown to b **Figure A0.3 — BCA Structure**

A0.4 Compliance with the BCA

A *Building Solution* will comply with the BCA if it satisfies the *Performance Requirements*.

A0.5 Meeting the Performance Requirements

Compliance with the *Performance Requirements* can only be achieved by—

(a) complying with the *Deemed-to-Satisfy Provisions*; or

(b) formulating an *Alternative Solution* which—
(i) complies with the *Performance Requirements*; or
(ii) is shown to be at least *equivalent* to the *Deemed-to-Satisfy Provisions*; or
(c) a combination of **(a)** and **(b)**.

A0.6 Objectives and Functional Statements

The *Objectives* and *Functional Statements* may be used as an aid to interpretation.

A0.7 Deemed-to-Satisfy Provisions

A *Building Solution* which complies with the *Deemed-to-Satisfy Provisions* is deemed to comply with the *Performance Requirements*.

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A0.8 GENERAL PROVISIONS A0.8 Alternative Solutions

(a) An *Alternative Solution* must be assessed according to one or more of the *Assessment Methods*.

(b) An *Alternative Solution* will only comply with the BCA if the *Assessment Methods* used to determine compliance with the *Performance Requirements* have been satisfied.

(c) The *Performance Requirements* relevant to an *Alternative Solution* must be determined in accordance with **A0.10**.

A0.9 Assessment Methods

The following *Assessment Methods*, or any combination of them, can be used to determine that a *Building Solution* complies with the *Performance Requirements*:

(a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.

(b) *Verification Methods* such as—

(i) the *Verification Methods* in the BCA; or

(ii) such other *Verification Methods* as the *appropriate authority* accepts for determining compliance with the *Performance Requirements*.

(c) Comparison with the *Deemed-to-Satisfy Provisions*.

(d) *Expert Judgement*.

A0.10 Relevant Performance Requirements

In order to comply with the provisions of **A1.5** (to comply with Sections A to J inclusive) the following method must be used to determine the *Performance Requirement* or *Performance Requirements* relevant to the *Alternative Solution*:

(a) Identify the relevant *Deemed-to-Satisfy Provision* of each Section or Part that is to be the subject of the *Alternative Solution*.

(b) Identify the *Performance Requirements* from the same Sections or Parts that are relevant to the identified *Deemed-to-Satisfy Provisions*.

(c) Identify *Performance Requirements* from other Sections and Parts that are relevant to any aspects of the *Alternative Solution* proposed or that are affected by the application of the *Deemed-to-Satisfy Provisions*, that are the subject of the *Alternative Solution*.

e at least *equivalent* to the *Deemed-to-Satisfy Provisions*; or

(c) a combination of **(a)** and **(b)**.

A0.6 Objectives and Functional Statements

The *Objectives* and *Functional Statements* may be used as an aid to interpretation.

A0.7 Deemed-to-Satisfy Provisions

A *Building Solution* which complies with the *Deemed-to-Satisfy Provisions* is deemed to comply with the *Performance Requirements*.

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A0.8 GENERAL PROVISIONS A0.8 Alternative Solutions

(a) An *Alternative Solution* must be assessed according to one or more of the *Assessment Methods*.

(b) An *Alternative Solution* will only comply with the BCA if the *Assessment Methods* used to determine compliance with the *Performance Requirements* have been satisfied.

(c) The *Performance Requirements* relevant to an *Alternative Solution* must be determined in accordance with **A0.10**.

A0.9 Assessment Methods

The following *Assessment Methods*, or any combination of them, can be used to determine that a *Building Solution* complies with the *Performance Requirements*:

(a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.

(b) *Verification Methods* such as—

(i) the *Verification Methods* in the BCA; or

(ii) such other *Verification Methods* as the *appropriate authority* accepts for determining compliance with the *Performance Requirements*.

(c) Comparison with the *Deemed-to-Satisfy Provisions*.

(d) *Expert Judgement*.

A0.10 Relevant Performance Requirements

In order to comply with the provisions of **A1.5** (to comply with Sections A to J inclusive) the following method must be used to determine the *Performance Requirement* or *Performance Requirements* relevant to the *Alternative Solution*:

(a) Identify the relevant *Deemed-to-Satisfy Provision* of each Section or Part that is to be the subject of the *Alternative Solution*.

(b) Identify the *Performance Requirements* from the same Sections or Parts that are relevant to the identified *Deemed-to-Satisfy Provisions*.

(c) Identify *Performance Requirements* from other Sections and Parts that are relevant to any aspects of the *Alternative Solution* proposed or that are affected by the application of the *Deemed-to-Satisfy Provisions*, that are the subject of the *Alternative Solution*.

PART A2 ACCEPTANCE OF DESIGN AND CONSTRUCTION

A2.1 Suitability of materials

Every part of a building must be constructed in an appropriate manner to achieve the requirements of the BCA, using materials and construction being fit for the purpose for which they are intended including the provision of access for maintenance.

A2.2 Evidence of suitability

(a) Subject to **A2.3** and **A2.4**, evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* may be in the form of one or a combination of the following:

(i) A report issued by a *Registered Testing Authority*, showing that the material or form of construction has been submitted to the tests listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in the building.

(ii) A current *Certificate of Conformity* or a current *Certificate of Accreditation*.

(iii) A certificate from a *professional engineer* or other appropriately qualified person which—

(A) certifies that a material, design, or form of construction complies with the requirements of the BCA; and

(B) sets out the basis on which it is given and the extent to which relevant specifications, rules, codes of practice or other publications have been relied upon.

(iv) A current certificate issued by a product certification body that has been accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).

(v) *****

(vi) Any other form of documentary evidence that correctly describes the properties and performance of the material or form of construction and adequately demonstrates its suitability for use in the building.

(b) Evidence to support that a calculation method complies with an ABCB protocol may be in the form of one or a combination of the following:

(i) A certificate from a *professional engineer* or other appropriately qualified person which—

(A) certifies that the calculation method complies with a relevant ABCB protocol; and

(B) sets out the basis on which it is given and the extent to which relevant specifications, rules, codes of practice and other publications have been relied upon.

(ii) Any other form of documentary evidence that correctly describes how the calculation method complies with a relevant ABCB protocol.

APPENDIX F – ACCREDITATION OF ALUCOBOND –TECHNICAL DATA

ALUCOBOND® Type			ALUCOBOND® PE	ALUCOBOND® PLUS	ALUCOBOND® A2					
Panel Thickness	Standard	Unit	3mm	4mm	6mm	3mm	4mm	6mm	3mm	6mm
Aluminium skin thickness		mm	0.5							
Core			Virgin LDPE	70% Mineral Filling	93% Mineral Filling					
Weight		kg/m^2	4.5	5.5	7.3	5.9	7.6	10.8	5.9	10.8
Section Modulus Z	DIN 53293	cm^3/m	1.25	1.75	2.75	1.25	1.75	2.75	1.25	2.75
Rigidity EI	DIN 53293	$kNcm^2/m$	1250	2400	5900	1250	2400	5900	1250	5900
Modulus of Elasticity E	EN 1999 1.1	Mpa	70,000							
Alloy	EN 573.3		EN AW 5005A (AlMg1)							
Temper	EN 515		H22 / H42							
Tensile Strength	EN 485.2	MPa	R_m => 130							
0.2% Proof Stress	EN 485.2	MPa	$R_{p0.2}$ => 90							
Elongation	EN 485.2	%	A_{50} = > 5							
Linear Thermal Expansion	EN 1999 1.1		2.4mm/m at 100^0 C temperature difference							
Finish			Coil Coated Fluoropolymer (PVDF or FEVE)							
Gloss	EN 13523.2		Finish Dependant - Standard = 30 - 40%							
Pencil Hardness	EN 13523.4		HB - F							
Acoustic Properties										
Sound Absorption factor a_s	ISO 354		0.05							
Sound Transmission Loss R_w	EN ISO 140.3	dB	25	26	27	27	27	27	27	27
Loss Factor d	EN ISO 6721		0.0072	0.0087	0.0138				0.004	
Thermal Properties										
Thermal Resistance R	DIN 52612	m^2K/W	0.0069	0.0103	0.0172	0.006	0.009	0.0151	0.002	0.005
Thermal Conductivity l	DIN 52612	W/mK	0.29/mm thickness of	0.33/mm thickness of core	1.00/mm thickness of core					
Heat Transition Coefficient U	DIN 4108	W/m^2K	5.65	5.54	5.34	5.68	5.58	5.34	5.83	5.71
Temperature Resistance		^0C	-50 up to +80							
Fire Behaviour										
Australian Fire Classification	ABCB CodeMark Certification		Cert. No. CMA -	Cert. No. CMA - CM40032	Cert. No. CMA - CM40059					
			Type C Construction	Type A & B Construction	Type A & B Construction					
				Mechanical Fixing Only	Mechanical Fixing Only					
			Mechanical & adhesive	Type C Construction	Type C Construction					
			techniques permitted	Mechanical & adhesive fixing	Mechanical & adhesive fixing					
				techniques permitted.	techniques permitted.					
	AS ISO 9705	Group 3 MaterialSMOGRA 3.198 m^2/s^2			Group 1 MaterialSMOGRA			Group 1		
	AS1530.3	Ignitibility = 0		Flame Spread = 0						
			Heat Evolved = 0	Smoke Developed = 0 - 1						

*ALUCOBOND® is 5005 Marine Grade Alloy approved. Sheet Sizes Widths: 1250mm & 1575mm held in stock. 1000mm, 1500mm and special widths up to 2000mm available as project order. - See more at: http://alucobond.com.au/product/alucobond-plus/#sthash.zvECfAgb.dpuf

APPENDIX 2 - Summary of Fire Call Log and FIP Log

Note: It was identified during investigations that the FIP log time was 25m 12s behind AEDT and the following entries have been adjusted accordingly.

Time	Event
02:23	Alarm-smoke adjacent apartment 805, level 8 corridor
02:24	MFB crew's turnout to a structure fire 673 La Trobe Street, Docklands, fire in apartment
02:25	Sprinkler flow switch, level 8
02:25	further caller stated well alight
02:29	Sprinkler flow level 11
02:29	Sprinkler flow level 13 Sprinkler flow level 10
02:29	First MFB crews on scene
02:30	Wordback from P38A Structure fire respond 3rd alarm
02:32	Sprinkler flow level 9
02:32	Sitrep from P38A, fire is spreading to levels above and evacuation is in progress
02:33	Sprinkler flow level 15 Sprinkler flow level 14
02:34	Spk flow level 18
02:35	Sprinkler flow level 7
02:35	Message, fire has extended all the way to the roof, primarily on the outside
02:36	Sprinkler flow level 17
02:37	Sprinkler flow level 19 Sprinkler flow level 6
02:38	Sprinkler flow level 21 Sprinkler flow level 20 Sprinkler flow level 16
02:38	Operational Commander now incident controller, status upgraded to 4th alarm
02:41	Sprinkler flow level 12
02:51	Fire crews setting up for internal search and attack, floor by floor External attack, ladder/platform reaching all levels
02:55	Fire appears to be under control, building still heavily smoke logged and several hundred civilians have evacuated to La Trobe St

03:45 Evacuation centre has been set up at the Vic Rail bus centre and the evacuees are currently moving there

06:35 Mero and Police have commenced relocating evacuees from Spencer st bus Centre to the Etihad Stadium

07:14 Weather: BOM report conditions for today,25/11/14. Currently 12 deg- humidity of 70% reaching 20 deg today with humidity dropping to 35%. Winds are westerly at 20 to 30 kp/h turning to SSW this afternoon at similar strength

APPENDIX 3 – CSIRO Combustibility Test Report

INFRASTRUCTURE TECHNOLOGIES
www.csiro.au

37 Graham Road, Highett VIC 3190
PO Box 56, Highett VIC 3190, Australia
T (03) 9252 6000 • ABN 41 687 119 230

Alex Webb
Group Leader - Fire Sa

NOTICE OF ADVICE

Project: AS 1530.1 NC Alucobest	Reference No: NC7318

From: A. Webb	Date: 13 April 2015	Pages: 1 of 1

To:	Copy:		Name:	Company	Email
☒			Rodger Bryant	MFESB	RBRYANT@mfb.vic.gov.au
	☒		Tass Georgas	MFESB	tgeorgas@mfb.vic.gov.au

Indicative test result NC 7318 Metropolitan Fire and Emergency Services Board

The indicative fire test result on one (1) sample of product named **Alucobest 11060167HY103**, tested in accordance to the test procedure specified in AS 1530.1:1994, tested on 1st April 2015 are as follows:

Observations: Sustained flaming was observed on the specimen at 55 seconds into the test. The test was terminated at 93 seconds due to excessive flaming and smoking.

Designation: The material is deemed **COMBUSTIBLE** according to the test criteria specified in Clause 3.4 of AS 1530.1:1994.

The results are only for guidance and do not constitute valid classification in terms of AS 1530.1:1994.

There are three circumstances in AS 1530.1 where a material is deemed combustible:
(a) The mean duration of sustained flaming, as determined in accordance with Clause 3.2, is other than zero.
(b) The mean furnace thermocouple temperature rise, as determined in accordance with Clause 3.1, exceeds 50°C.
(c) The mean specimen surface thermocouple temperature rise, as determined in accordance with Clause 3.1, exceeds 50°C.

AS 1530.1 requires:
1. 5 samples to be tested
2. The minimum test time is 30 minutes.

The single sample failed the sustained flaming clause in the first minute of the test. The test was terminated soon after, and prior to 30 minutes, to prevent damage to our equipment. So technically this did not satisfy the requirements of the standard for number of samples and test duration [hence we cannot carry out calculations for criteria (b) and (c)] however the single sample was a clear fail on criteria (a).

We trust this letter is suitable for your purposes, should you wish to discuss please contact the undersigned.

Yours sincerely,

Alex Webb
Group Leader - Fire Safety Engineering –E alex.webb@csiro.au T +61 3 9252 6431

APPENDIX 4 – Schedule of MFB Reports & Consents (Building Regulations)

An MFB Report and Consent was completed on 29 March 2014. The report consented to variations relating to:

Fire control Centre
Location of Booster assembly
Location of Pump Room
Location of Sprinkler control Valves
Location of Hydrant Ring Main
Hydrant Shortfalls
Hose Reel Shortfalls
Location Of Hose Reels/Hydrants
Magflow Meter
Permit for Combined Sprinkler/hydrant Service
Permit grade 2 water supply
Permit ring main pressure increase
Deletion of Hose Reels
Deletion of Sprinklers to external Soffits/canopies
309(3) Notification re: deletion of sprinkler protection to vehicular ramps and aisles etc.

The above report offers comment on the balcony areas. Advice was included in the report advising to not use the balconies for storage purposes and to include this measure within the building Essential Safety Measures. Of further interest were the minutes submitted to the MFB regarding Stage 2 at the same address on the 5 December 2013. The minutes included reference to the permit use for combustible material on the external façade (Alucabond).

20/03/2008 – Confirmation of Minutes #324789
File container - 08/01303a

23/09/2010 – Minutes of Meeting #585957
File container - 08/01303a

27/09/2010 – LOA Correspondence #586305
File container – 08/01303a

22/02/2011 – Application for 309 Variation #622361
File container – 08/01303a

1/03/2011 - LOA Correspondence #624055
File container – 08/01303a

14/11/2008 (edited) 7/04/2011 – CSTD Review #628225
File container – 08/01303a

30/05/2012 – Tactical Fire Plan #742423
File container – 12/0209

18/05/2012 – 1003a Report #736507 & #744323
File container – 12/02093a

5/12/2013 – Minutes #878294
File container – 13/02959a

08/01/2014 – CSTD Review #885417
File container – 13/02959a

13/06/2014 – 309 review #924635
File container –12/02093b

16/06/2014 – FER #924710
File container – 12/02093b

9/07/2014 - CSTD Review #930443
File container – 12/02093

APPENDIX 5 - Apartment Exhaust and EWIS Systems

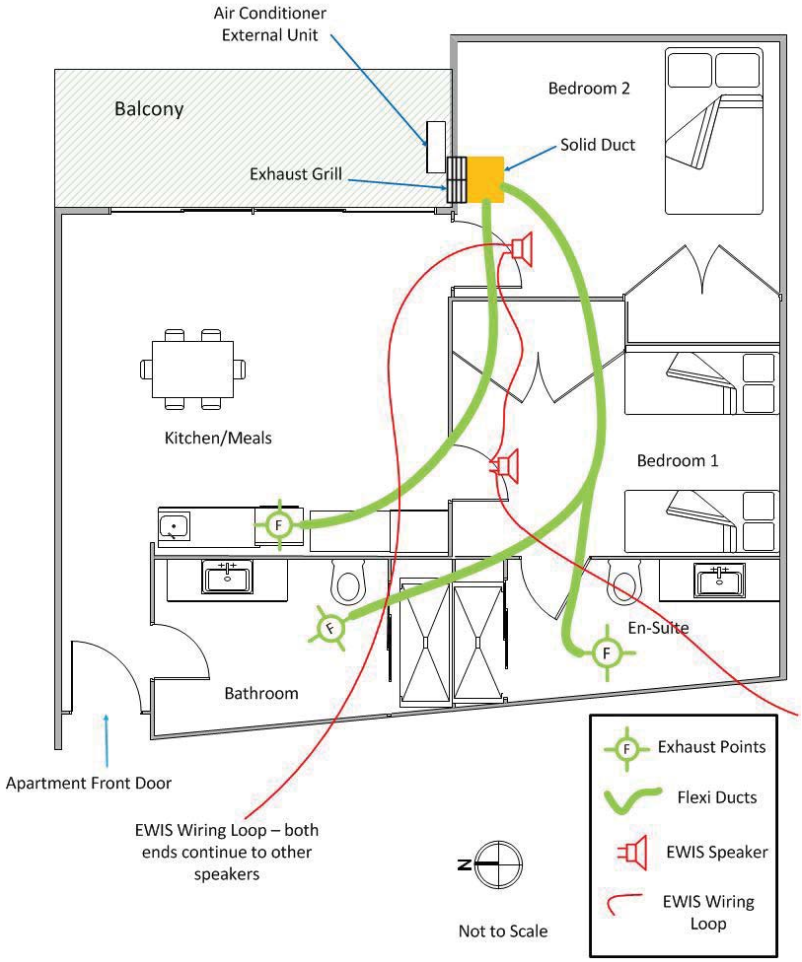

Figure 15 - Apartment Exhaust and EWIS Systems, representative of all 05 Series apartments.

Figure 16 - Exhaust Grill Location, representative of all 05 Series Apartments.

APPENDIX 6 - Wiring Diagram for EWIS

This figure is an extract from Australian Standard AS1670.4-2004 (page 20 Figure 4.1). The figure depicts which EWIS wires are required to be protected from fire and which are not required to be protected.

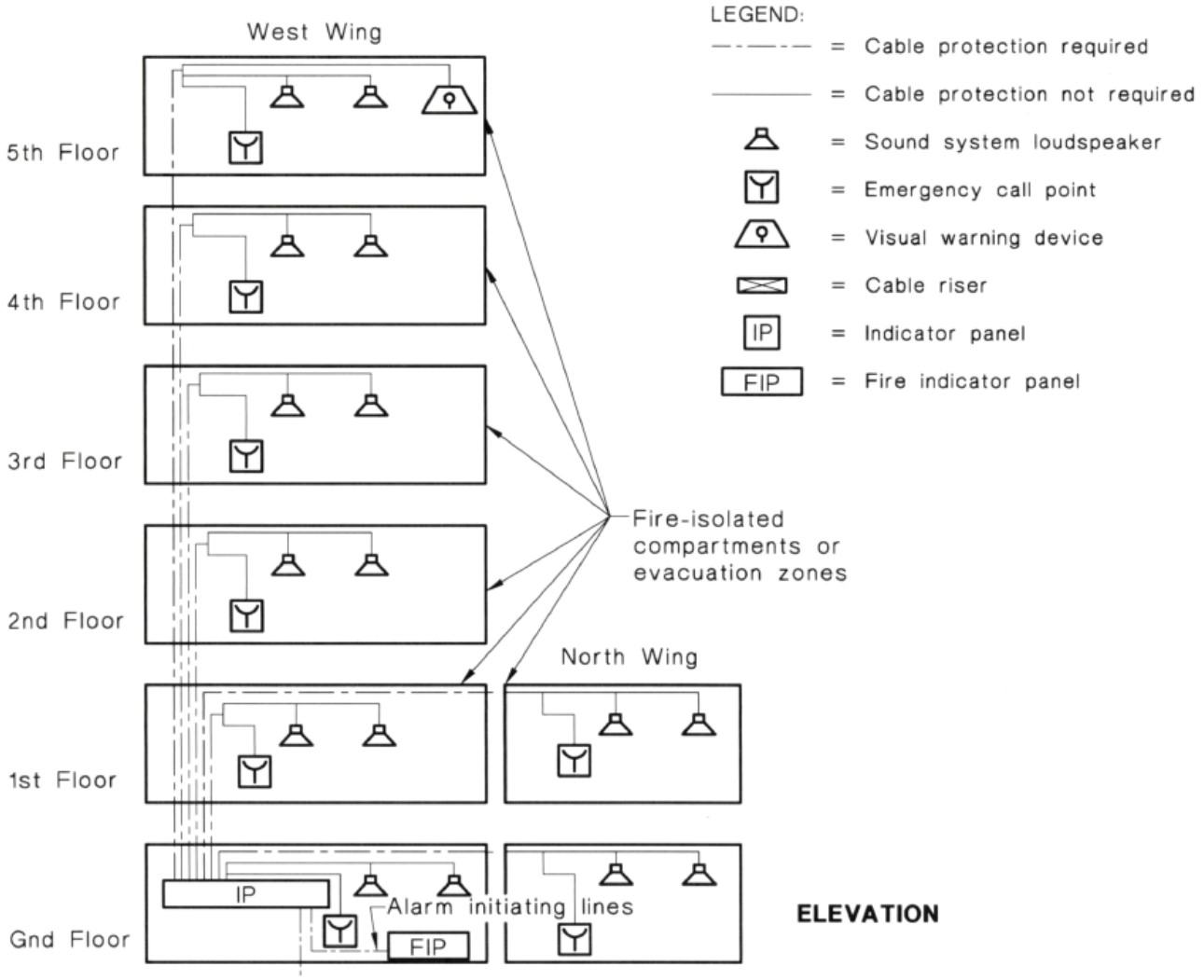

Figure 17 - Wiring diagram for EWIS

APPENDIX 7 - Level 8 Smoke Detection and EWIS Speaker Locations

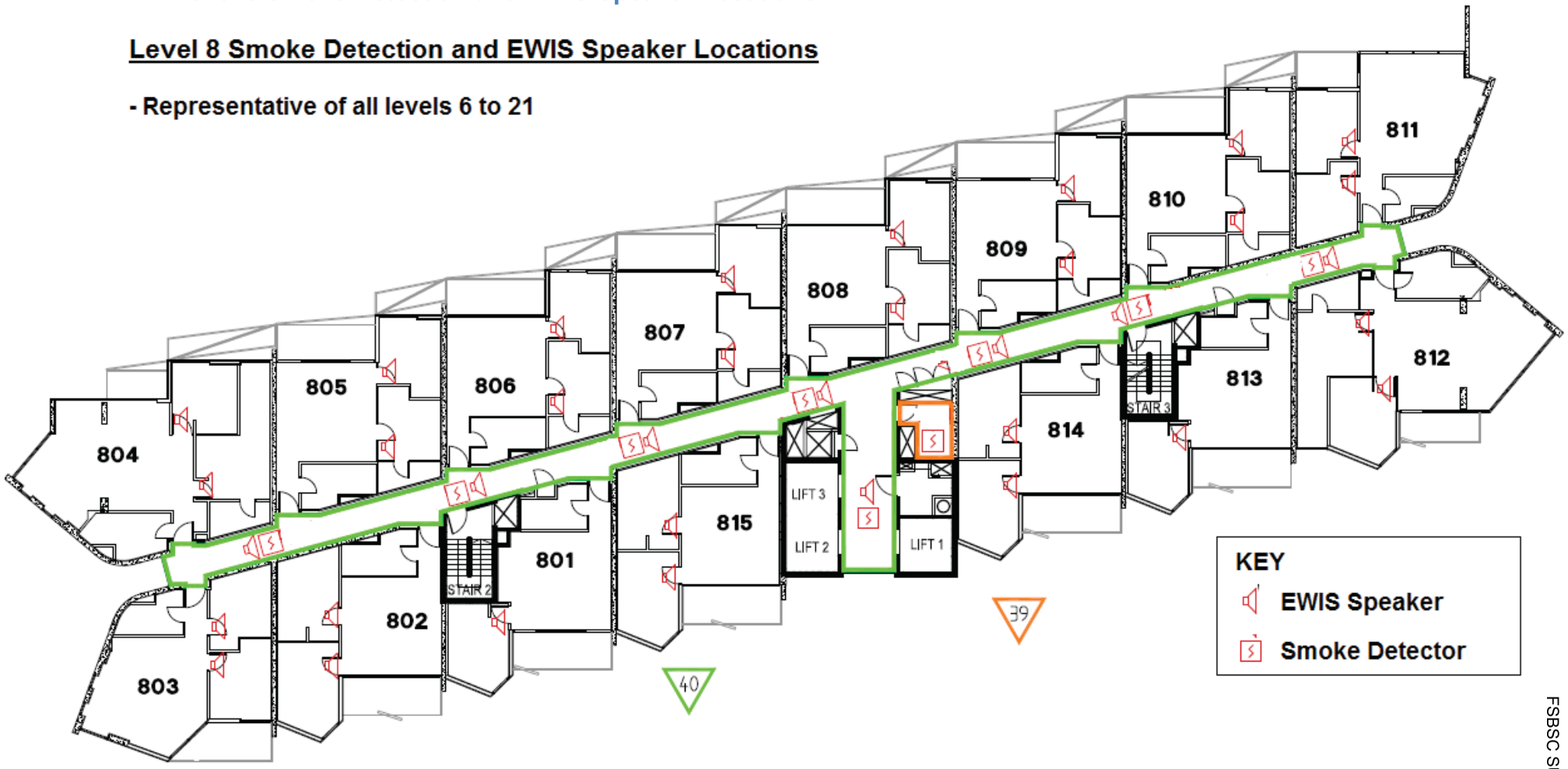

Figure 18 - Level 8 Smoke Detection and EWIS Speaker Locations

APPENDIX 8 - Sprinkler/Fire Hydrant Design

Year of Installation 2012.

Lacrosse Reference Name	System Feed	System Type	Area of Coverage	Height of Highest Sprinkler	System Requirements	System Requirements
Sprinkler Installation 1	**From Towns Main**	**Part 1 Commercial System - AS2118.1 1999**	**Carpark Level 0 & Level 0.5 (Hybrid System 5mm/min over 72m^2)**	**7.2m**	**Zone B – Level 0.5 Carpark 1925 L/min @ 545kPa (inc 2 x HYD @ 600L/min)**	**At Towns Main**
Sprinkler Installation 2	**From Towns Main**	**Part 1 Commercial System - AS2118.1 1999**	**Carpark - Level 1 & 2 - (Hybrid System 5mm/min over 72m^2)** **Retail Level 1 & 2 – (Ordinary Hazard 3 5mm/min over 216m^2)**	**12.5m**	**Zone C – Level 1 Carpark 1935 L/min @ 495 kPa (inc 2 x HYD @ 600L/min)** **Zone D – Level 2 Retail 2975 L/min @ 556 kPa (inc 2 x HYD @ 600L/min)** **Zone E – Level 2 Carpark 1956 L/min @ 558 kPa (inc 2 x HYD @ 600L/min)**	**At Towns Main**
Mid Rise Zone	**Pumped**	**Part 6 Combined Sprinkler / Hydrant System - AS2118.6 1995**	**Apartment Level 3 to Level 11 (Residential 4 x Res Sprinklers)**	**40.0m**	**Zone F – Level 11 1028 L/min @ 1037 kPa (inc 2 x HYD @ 300L/min)**	**At Pump Discharge**
High Rise Zone	**Pumped**	**Part 6 Combined Sprinkler / Hydrant System - AS2118.6 1995**	**Apartment Level 12 to Level 21 (Residential 4 x Res Sprinklers)**	**69.0m**	**Zone G – Level 21 1028 L/min @ 1324 kPa (inc 2 x HYD @ 300L/min)**	**At Pump Discharge**

Fire Pump Design.
Specified Pump Duty: 1030 L/min @ 730 kPa

Pump	Type	Installed	Make	Power	Speed	Pump Cut In
Duty Pump	**Electric**	**2012**	**BKB**	**30kW**	**2900 RPM**	**700 kPa**
Standby Pump	**Diesel**	**2012**	**BKB**	**68 / 74 kW**	**2100 / 2700 RPM**	**600 kPa**

APPENDIX 9 - Sprinkler Flow Switch Activation Sequence

Sprinkler Flow Switch Activation Sequence.

Flow Switch Level	Activation time (Hour : Minute : Second)	Activation Time after initial flow switch activation (Minute : Second)	Sprinklers Activated - Location as Per Figure 1
8	2:25:06	0:00	Living/Bed 2
11	2:29:06	4:00	Living/Bed 2
13	2:29:27	4:21	Living
10	2:29:35	4:29	Living/Bed 2
9	2:32:16	7:10	Living
15	2:33:40	8.34	Living/Bed 2
14	2:33:48	8:42	Living/Bed 2
18	2:34:31	9:25	Living/Bed 2
7	2:35:54	10:48	Living
17	2:36:50	11:44	Living/Bed 2
19	2:37:12	12:06	Living/Bed 2
6	2:37:28	12:22	Living
21	2:38:11	13:05	Living/Bed 2
20	2:38:29	13:23	Living
16	2:38:59	13:53	Living/Bed 2
12	2:41:57	16:51	Bed 2

APPENDIX 10 - Exhaust Duct and EWIS Speaker

Image depicts apartment exhaust duct, the image also shows how close the door of Bedroom 2 is to the exhaust. The EWIS speaker is located roughly 400mm inside this door.

Figure 19 - Apartment Exhaust Duct

Image depicts the damaged caused to the EWIS speaker cables in Bedroom 2 of the 05 Series Apartments.

Figure 20 - EWIS Speaker and wiring

APPENDIX 11 – Cascading evacuation system designed

This table illustrates how the cascading evacuation system is designed to operate.

Floor Level	Evacuation time after initial alarm (mins : secs)	Evacuation Segment
21	12:00	2
20	11:00	2
19	10:00	2
18	09:00	2
17	08:00	2
16	07:00	2
15	06:00	2
14	05:00	2
13	04:00	2
12	03:00	2
11	02:00	2
10	01:00	2
09	00:00	1
08 – Initial Fire Floor	00:00	1
07	00.00	1
06	13:00	3
05	14:00	3
04	15:00	3
03	16:00	3
02 – La Trobe St	17:00	3
01	18:00	3
0.5	19:00	3
00 – Wurundjeri Way	20:00	3

APPENDIX 12 – Similar International Fire incidents

The Fire Protection Research Foundation published a report in June 2014, titled "Fire Hazards of Exterior Wall Assemblies Containing Combustible Components ([1]). The project, compiled by CSIRO and FireSERT (University of Ulster), was intended to establish the technical foundation for mitigation strategies for fires involving exterior wall systems with combustible components.

The report includes reviews of related international fire incidents involving facades clad with aluminium/polyethylene composite panel. The review surmised that external façade fires were 'low frequency events' however extensive fire spread and "property loss can be potentially very high".

Seven international fire events involving external facades constructed of aluminium/polyethylene composite panel are documented within the report.

Torch Tower Dubai 21 February 2015

Photo – care of Twitter

- *79 Storey residential;*
- *Reported as same façade material as the other Dubai fires shown - Aluminium/polyethylene composite panel facade;*
- *Fire Origin 52nd floor*
- *Rapid vertical spread up the façade of the building and significant flaming falling debris*

Mermoz Tower, Roubaix, France, 2012

Photo – care of NFPA website

- *18 storey residential building;*
- *Aluminium/polyethylene composite panel facade;*
- *Fire origin – 2nd storey balcony;*
- *Fire description - "rapid vertical flame spread to the top of the building within a few minutes".*

Al Tayer Tower, Sharjah, 2012

Photo – care of Gulf News

- *40 storey residential building containing 6 carpark levels;*
- *Aluminium/polyethylene composite panel façade;*
- *Fire origin – 1st storey balcony;*
- *Fire cause – "discarded cigarette landing on the balcony which contained cardboard boxes and plastics";*
- *Fire description – "vertical fire spread on the metal composite cladding to the top of the building";*

Saif Belhasa Building, Tecom, Dubai 2012

Photo – care of Fire Middle East

- *13 storey residential building;*
- *Aluminium/polyethylene composite panel façade;*
- *Fire origin – 4th floor;*
- *Fire description – "fire rapidly spread to reach the top of the building"*

Tamweel Tower, Dubai, 2012

Photo care of – Emirates247.com

- *34 storey residential building (contains mixed use)*
- *Aluminium/polyethylene composite panel façade;*
- *Fire origin – roof level*
- *Fire description - "spread down the exterior of the building."*

Wooshin Golden Suites, Busan South Korea

Photo care of – Emirates247.com

- *42 storey residential building (contains mixed use);*
- *Aluminium/polyethylene composite panel façade;*
- *Fire description - "spread vertically upward on the façade reaching the top of the building"*
- *Fire origin - fourth floor;*

Water Club Tower, Atlantic City, USA

Photo care of tus-fire.com

- *41 storey building under construction;*
- *Aluminium/polyethylene composite panel façade;*
- *Fire origin - internal fire on the 3rd floor;*
- *Fire description – "fire spread vertically and rapidly reached the top of the building".*

What is evident from the photos and descriptions above is the rapid and extensive vertical fire spread up and down the buildings in direct correlation with the fire at 673 – 683 La Trobe Street Docklands. Whilst the brand and make of the panels are not identified in the report, they would all appear to be of very similar material and construction to the material installed in the façade of the subject building.

Also, the fire location in almost all cases is generally on a configuration of the façade where internal returns, channels and/or balconies are present. This is perhaps attributed to the higher incidence of ignition sources on balconies and the retention of heat in channels and returns in the form and shape of the facade rather than on flat plane areas of facades where loss of heat straight to the atmosphere may occur.

APPENDIX 13 – Media Reports

News Articles

Faulty fire alarms and construction both under investigation in Docklands apartment blaze (November 25, 2014) – The Age

http://www.theage.com.au/victoria/faulty-fire-alarms-and-construction-both-under-investigation-in-docklands-apartment-blaze-20141125-11tme2.html

Fear over high-rise tower fire risk in Melbourne (December 7, 2014) - Sydney Morning Herald

http://www.smh.com.au/business/fear-over-highrise-tower-fire-risk-in-melbourne-20141206-11zgp7.html

Investigation into Docklands fire (December 2, 2014) – Docklands News

http://www.docklandsnews.com.au/editions/article/investigation-into-docklands-fire_10435/

Melbourne high-rise fire (November 24, 2014) – The Morning Show

https://www.youtube.com/watch?v=5TLCdQFrBYw

APPENDIX 14 – MFB Fire Call History

Call No.: 15657 of November 2014

25/11/2014 02:24:05	15657	EXC	SF	UC	DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR
02:24:05	CO				** CLI> 295610 02:23:23 25/11/2014, 11\4 Gipps Ave MORDIALLOC VIC 3195,
02:24:05	CO				0435743723
02:24:05	IN	EXC	SF		DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR
02:24:05	CO				SC: FIRE IN APARTMENT ON LEVEL 2
02:24:13	DE				FGD15
02:24:13	DE				P38B
25/11/2014 02:24:13	DE				P38A
25/11/2014 02:24:13	DE				P2A
25/11/2014 02:24:14	CO				TN: DISPATCH FB1 TO ALL CALLS TO VICTORIA
25/11/2014 02:24:14	CO				TN: HARBOUR
25/11/2014 02:24:14	CO				TN: NOTIFY CMDR OF ALL CALLS TO VIC. HARBOUR
25/11/2014 02:24:14	CO				TN: -----
25/11/2014 02:24:24	CO				BUILDING HAS 25 LEVELS
25/11/2014 02:24:42	CO				** CLI> 731179 02:23:47 25/11/2014, 808\528 Swanston ST CARLTON VIC 3053,
25/11/2014 02:24:42	CO				0425214342
25/11/2014 02:24:49	CO				NIL EVACUATIONS
25/11/2014 02:25:02	CO				FURTHER CALLER STATED WELL ALIGHT
25/11/2014 02:25:11	CO				NA: FSCC- RESPOND ADDITIONAL PRIMARY
25/11/2014 02:25:12	CO				NFD
25/11/2014 02:25:23	CO				** CLI> 731180 02:24:36 25/11/2014, 1\412 JOHNSTON ST ABBOTSFORD VIC 3067,
25/11/2014 02:25:23	CO				0408624636
25/11/2014 02:25:30	CO				** CLI> 857109 02:23:22 25/11/2014, 635 Waverley RD GLEN WAVERLEY VIC 3150,
25/11/2014 02:25:30	CO				0403693632
25/11/2014 02:25:34	CO				TN: DISPATCH FB1 TO ALL CALLS TO VICTORIA
25/11/2014 02:25:34	CO				TN: HARBOUR
25/11/2014 02:25:34	CO				TN: NOTIFY CMDR OF ALL CALLS TO VIC. HARBOUR
25/11/2014 02:25:34	CO				TN: -----
25/11/2014 02:25:34	DE				P2B
25/11/2014 02:25:43	CO				CALLER STATES IT LOOKS LIKE THERE IS A FIRE ON THE BALCONY
25/11/2014 02:25:51	TO				FGD15 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:25:51	TO				P38A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:25:55	CO				** CLI> 984844 02:25:15 25/11/2014, 22 Gresham Way SUNSHINE WEST VIC 3020,

25/11/2014 02:25:55	CO				0478122908
25/11/2014 02:25:59	CO				FIRE ON THIRD STOREY - ON OUTSIDE OF BUILDING FACING WURUNDJERI WAY
25/11/2014 02:26:07	CO				** CLI> 992958 02:25:32 25/11/2014, 250 Barkly St FOOTSCRAY VIC 3011, 0413846459
25/11/2014 02:26:10	CO				NA: FSCC - 2ND ALARM
25/11/2014 02:26:14	CO				** Alarm level updated to 2
25/11/2014 02:26:14	CO				*EXC,SF2-- DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:26:15	CO				** CLI> 900844 02:25:44 25/11/2014, 1005\673 LA TROBE ST DOCKLANDS VIC 3008,
25/11/2014 02:26:15	CO				0407175459
25/11/2014 02:26:20	TO				P38B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:26:21	CO				MY CALLER STATES THE ADDRESS IS 802/673 LA TROBE ST
25/11/2014 02:26:22	DE				TB44
25/11/2014 02:26:22	DE				RAMP
25/11/2014 02:26:22	DE				R3
25/11/2014 02:26:23	CO				TN: -----
25/11/2014 02:26:30	CO				TA: RAMP turned out while at FS01
25/11/2014 02:26:37	CO				** CLI> 857112 02:26:11 25/11/2014, 673 LA TROBE ST DOCKLANDS VIC 3008,
25/11/2014 02:26:37	CO				0414464696
25/11/2014 02:26:38	TO				P2A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:26:46	CO				** CLI> 857112 02:26:12 25/11/2014, 673 LA TROBE ST DOCKLANDS VIC 3008,
25/11/2014 02:26:46	CO				0414464696
25/11/2014 02:26:47	CO				** CLI> 771988 02:25:54 25/11/2014, 35 DANDENONG VALLEY HWY DANDENONG VIC 3175,
25/11/2014 02:26:47	CO				0429574041
25/11/2014 02:26:59	CO				** CLI> 220003 02:26:24 25/11/2014, 505\673 La Trobe St DOCKLANDS VIC 3008,
25/11/2014 02:26:59	CO				0402020623
25/11/2014 02:27:06	CO				** CLI> 731181 02:26:01 25/11/2014, 131 LONSDALE ST MELBOURNE VIC 3000,
25/11/2014 02:27:06	CO				0469866460
25/11/2014 02:27:08	CO				FIRE HAS MOVED TO LEVEL 3
25/11/2014 02:27:09	CO				** CLI> 920245 02:26:26 25/11/2014, 705\673 Latrobe RDWY DOCKLANDS VIC 3000,
25/11/2014 02:27:09	CO				0404464341
25/11/2014 02:27:16	CO				** CLI> 984846 02:27:03 25/11/2014, 10\109 Canterbury St FLEMINGTON VIC 3031,
25/11/2014 02:27:16	CO				0481126790
25/11/2014 02:27:27	CO				** CLI> 900845 02:26:37 25/11/2014, 31 NARELLAN DR HAMPTON PARK VIC 3976,
25/11/2014 02:27:27	CO				0400628862
25/11/2014 02:27:30	CO				** CLI> 309053 02:27:13 25/11/2014, 12 GRANDCHESTER ST SUNNYBANK HILLS QLD 4109,
25/11/2014 02:27:30	CO				0423223523

25/11/2014 02:27:31	CO				** CLI> 992959 02:26:40 25/11/2014, 280 SPENCER ST MELBOURNE VIC 3000,
25/11/2014 02:27:31	CO				DUDLEY ST, Type = 611 F FIRE-SF STRUCTURE FIRE, Subtype = default, Caller Name =
25/11/2014 02:27:31	CO				** CLI> 992957 02:22:38 25/11/2014, 26 KUMARA CCT SOUTH MORANG VIC 3752,
25/11/2014 02:27:31	CO				MORANG, Call Source = 000, Alarm Level = 1Ev Phone0404661158
25/11/2014 02:27:31	CO				SPECIAL ADDRESS COMMENT:
25/11/2014 02:27:31	CO				SERVICE ENTRY OFF BOURKE STREET WEST
25/11/2014 02:27:31	CO				U/K BULIDING NAME OR NUMBER
25/11/2014 02:27:31	CO				NEXT TO BUILDING HAS MEDIBANK SIGN
25/11/2014 02:27:31	CO				CALLER OPPOSITE AT V/LINE TRACKS
25/11/2014 02:27:31	CO				NFD
25/11/2014 02:27:31	CO				SAME EVENT
25/11/2014 02:27:31	CO				SC: BUILDING FIRE
25/11/2014 02:27:36	CO				NA: POL VIA CAS
25/11/2014 02:27:38	CO				======FSCC NOTIFIED OPS COMMANDER======
25/11/2014 02:27:42	CO				FURTHER CALLER STATES VERY LARGE FIRE AND HE BELIEVES IT IS ON LEVEL 5
25/11/2014 02:27:48	CO				** CLI> 857114 02:27:31 25/11/2014, 231 HARBOUR ESP DOCKLANDS VIC 3008,
25/11/2014 02:27:48	CO				0452576268
25/11/2014 02:27:51	CO				FURTHER CALLER STATED FIRE COULD BE ON 3 - 6 LEVEL
25/11/2014 02:27:56	TO				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:28:05	CO				** Cross Referenced to Event # Z14112585015 at: 25/11/14 02:28:05
25/11/2014 02:28:11	CO				NA: AV VIA CAS
25/11/2014 02:28:36	CO				** CLI> 771991 02:28:13 25/11/2014, 17 Carlisle St ST KILDA VIC 3182, 0434641902
25/11/2014 02:28:36	TO				R3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:28:45	CO				** CLI> 920247 02:28:34 25/11/2014, 313 SWANSTON ST MELBOURNE VIC 3000,
25/11/2014 02:28:45	CO				0406800088
25/11/2014 02:28:56	CO				** CLI> 992960 02:28:25 25/11/2014, 808\673 La Trobe ST DOCKLANDS VIC 3008,
25/11/2014 02:28:56	CO				0422937819
25/11/2014 02:29:04	CO				MG: P2A FLAMES ARE OUT THE SIDE OF THE BUILDING RESPOND LP1
25/11/2014 02:29:06	CO				** CLI> 242708 02:28:45 25/11/2014, 64 FERNY AVE SURFERS PARADISE QLD 4217,
25/11/2014 02:29:06	CO				0408003811
25/11/2014 02:29:06	OS				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:29:08	DE				LP1
25/11/2014 02:29:09	CO				TN: -----
25/11/2014 02:29:12	OS				P2A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:29:18	OS				FGD15 ,673 LATROBE ST,DOCKLANDS

25/11/2014 02:29:20	TO				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:29:24	OS				P38A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:29:32	OS				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:29:47	CO				NA: CITIPOWER - ETA ASAP
25/11/2014 02:30:13	CO				** Alarm level updated to 3
25/11/2014 02:30:13	CO				*EXC,SF3-- DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:30:17	CO				WB: P38A DUE TO THE NATURE OF THE FIRE RESPOND 3RD ALARM
25/11/2014 02:30:17	CO				*EXC,SF2-- DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:30:21	DE				BA38
25/11/2014 02:30:21	DE				P1A
25/11/2014 02:30:21	DE				AOC8
25/11/2014 02:30:21	DE				CU1
25/11/2014 02:30:21	DE				P3
25/11/2014 02:30:21	DE				UP1
25/11/2014 02:30:21	DE				KLB
25/11/2014 02:30:21	DE				P1B
25/11/2014 02:30:21	DE				CKAT
25/11/2014 02:30:22	CO				TN: -----
25/11/2014 02:30:36	CO				TA: AOC8 turned out while at FS42
25/11/2014 02:30:39	CO				TA: CKAT turned out while at Private Home
25/11/2014 02:30:40	CO				NA: FSV T/L
25/11/2014 02:31:15	CO				** Alarm level updated to 3
25/11/2014 02:31:15	CO				*EXC,SF3NY DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:31:33	TO				TB44 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:31:35	OS				P38B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:31:38	CO				SC: APARTMENT BUILDING FIRE
25/11/2014 02:31:41	CO				MG: P38A SIT REP SSO ADAMOPOULOS FIRE IN MULTI STOREY BUILDING IS ON THE 3RD
25/11/2014 02:31:41	CO				MG: FLOOR GOING UP TO THE 10TH FLOOR, GOING ALONG THE BALCONIES, LARGE NUMBER
25/11/2014 02:31:41	CO				MG: OF PEOPLE IN THE BUILDING REQUIRE 3RD ALARM FOR MANPOWER...
25/11/2014 02:31:47	TO				LP1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:32:06	OS				P38A ,### LATROBE ST CONTROL
25/11/2014 02:32:15	CO				NA: GAS SAFETY - ETA WITHIN THE HOUR
25/11/2014 02:32:24	CO				NA: CMDR RAMPLING
25/11/2014 02:32:29	OS				R3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:32:39	CO				MG: CTRL.. SSO ADAMOPOULOS IS INC CONTROLLER, SSO ERICCSON IS FORWARD CTRL..

25/11/2014 02:32:39	CO				MG: TO ASSIST PEOPLE LEAVING THE BUILDING
25/11/2014 02:32:41	TO				RAMP ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:32:47	TO				P1A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:32:50	TO				P3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:33:16	TO				UP1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:33:23	CO				NA: CMDR KATSIKIS
25/11/2014 02:33:29	TO				P1B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:33:44	TO				KLB ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:34:17	TO				BA38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:34:25	CO				== FROM FSV - VICPOL NOT REQ ==
25/11/2014 02:35:10	CO				DISREGARD ABOVE RE POL - ENTERED IN ERROR
25/11/2014 02:35:30	CO				MG: CTRL.. FIRE HAS EXTENDED ALL THE WAY TO THE ROOF PRIMARILY ON THE OUTSIDE
25/11/2014 02:35:30	CO				MG: OF THE BUILDING AT THIS STAGE... NOT SURE OF FIRE EXTENSION INTO THE
25/11/2014 02:35:30	CO				MG: APARTMENTS...
25/11/2014 02:35:36	TO				CU1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:35:55	CO				NA: ACTING CMDR WHITE
25/11/2014 02:35:59	OS				P3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:36:04	OS				RAMP ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:36:09	CO				NA: MELBOURNE WATER TO ATTEND
25/11/2014 02:36:09	OS				P1A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:36:38	OS				P1B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:38:18	CO				WB: CTRL.. CMDR RAMPLING SF R4A FIRE INV BALCONIES RIGHT TO THE TOP LEVEL
25/11/2014 02:38:18	CO				WB: APPEARS IT MAY BE BBQS OR A/CS ON FIRE, ALL ON FIRE, MULTIPLE EVACUATIONS
25/11/2014 02:38:28	CO				** Alarm level updated to 4
25/11/2014 02:38:28	CO				*EXC,SF4NY DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:38:39	DE				P39B
25/11/2014 02:38:39	DE				T10A
25/11/2014 02:38:39	DE				P47
25/11/2014 02:38:39	DE				LP47
25/11/2014 02:38:39	DE				PATT
25/11/2014 02:38:39	DE				P39A
25/11/2014 02:38:39	DE				P4
25/11/2014 02:38:39	DE				P10B
25/11/2014 02:38:39	DE				MELE
25/11/2014 02:38:40	CO				TN: -----

25/11/2014 02:38:45	OS				UP1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:38:56	OS				LP1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:38:57	CO				TA: MELE turned out while at FS26
25/11/2014 02:39:21	TO				CKAT ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:40:25	TO				P39A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:40:39	CO				MG: CTRL.. SSO ADAMOPOULOS FIRE IS STILL ON 3RD FLOOR, SOME HAS GONE OUT ON
25/11/2014 02:40:39	CO				MG: THE 4TH AND 5TH, STILL ALL FIRES GOING UP TO THE TOP FLOOR, CURRENTLY HAVE
25/11/2014 02:40:39	CO				MG: AERIAL APPL SETTING UP...
25/11/2014 02:40:50	TO				P10B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:04	TO				P4 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:11	OS				CU1 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:13	OS				TB44 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:17	TO				P39B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:18	TO				P47 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:28	CO				NA: DHS EMERGENCY MANAGEMENT NOTIFIED
25/11/2014 02:41:40	TO				LP47 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:41:48	TO				AOC8 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:42:04	OS				BA38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:43:19	CO				NA: ALL STATION NOTIFICATION 4TH ALARM IN DOCKLANDS. ALL RADIO TRAFFIC FOR
25/11/2014 02:43:19	CO				NA: CENTRAL NOT RELATING TO THIS FIRE TO BE ON CH 3
25/11/2014 02:43:23	TO				T10A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:43:32	CO				MG: T10A TURNING OUT WITH HOSE LAYER...
25/11/2014 02:44:09	TO				PATT ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:45:00	OS				P39A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:45:11	OS				KLB ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:45:12	CO				MG: P47 - STAGING AREA? / ADV NEGATIVE AND GO STRAIGHT TO SCENE / ACK AND ADV
25/11/2014 02:45:12	CO				MG: TO CHANGE TO CH 1 / ACK
25/11/2014 02:45:46	CO				MG: CTRL.. CMDR RAMPLING IN CHARGE OF SCENE, SSO ADAMOPOULOS IS OPERATIONS
25/11/2014 02:45:46	CO				MG: OFFICER, SSO YEOMAN IS IN CHARGE OF CREWS GOING INTO THE BUILDING...
25/11/2014 02:46:19	TO				DAY ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:46:28	OS				P10B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:47:31	OS				P47 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:47:52	CO				MG: CTRL.. SO NICHOLSON IS SAFETY OFFICER INTERNAL INTO THE BUILDING...
25/11/2014 02:48:12	OS				P4 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:49:03	TO				MELE ,673 LATROBE ST,DOCKLANDS

25/11/2014 02:49:34	OS				P38A ,### LATROBE ST CONTROL FGD CH15
25/11/2014 02:49:38	OS				AOC8 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:49:43	OS				P39B ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:50:21	TO				FIUA ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:51:50	CO				WB: CTRL.. MR BROWN SF R4A AT THIS STAGE, SETTING UP INC MANAGEMENT TEAM
25/11/2014 02:51:50	CO				WB: NOWINC CONTROLLER, CMDR RAMPLING IS OPERATIONS OFFICER, SSO YEOMAN IS
25/11/2014 02:51:50	CO				WB: FORWARD CTRL.. CREWS CURRENTLY SETTING UP INTERNAL SEARCH AND ATTACK FLOOR
25/11/2014 02:51:50	CO				WB: BY FLOOR, HAVE EXTERNAL ATTACK BY LP WHICH IS COVERING EACH OF THE BALCONY
25/11/2014 02:51:50	CO				WB: FIRES...
25/11/2014 02:52:40	CO				MG: CTRL.. SSO ADAMOPOULOS POWER CO ASAP, STILL HAVE POWER IN BUILDING
25/11/2014 02:52:40	CO				MG: SPRINKLERS HAVE OPERATED...
25/11/2014 02:52:50	CO				MG: CTRL.. ACK ETA OF POWER CO....
25/11/2014 02:53:31	OS				CKAT ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:55:00	CO				MG: CTRL. SIT REP SSO ADAMOPOULOS, MOST OF THE FIRE APPEARS TO BE KNOCKED DOWN
25/11/2014 02:55:00	CO				MG: EXTERNALLY, BUILDING IS STILL HEAVILY SMOKE LOGGED, MANY FIRE FIGHTERS
25/11/2014 02:55:00	CO				MG: STILL DOING INTERNAL SEARCH, HAVE SEVERAL HUNDRED CIVILIANS ON LATROBE ST
25/11/2014 02:55:00	CO				MG: HAVING BEEN EVACUATED
25/11/2014 02:55:12	OS				LP47 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:57:02	CO				MG: CTRL.. FIRE APPEARS TO HAVE STATED ON LEVEL 2 ROOM 205, GONE TO 305, 405
25/11/2014 02:57:02	CO				MG: 505 AND THEN 6 THROUGH TO 10, CREWS CURRENTLY INTERNALLY MAKING SURE ALL
25/11/2014 02:57:02	CO				MG: HAVE EVACUATED, CHECKING FOR FIRE EXTENSION INTO THE ROOMS...
25/11/2014 02:58:07	OS				T10A ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:58:11	TO				BS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:58:54	OS				DAY ,673 LATROBE ST,DOCKLANDS
25/11/2014 02:59:45	CO				WB: CTRL. MR BROWN SF UC
25/11/2014 02:59:45	CO				*EXC,SF4UC DOCKLANDS, 673 LATROBE ST /WURUNDJERI WAY + DIGITAL DR, [2EH4]
25/11/2014 02:59:50	CO				NA: SUPV, FSCC
25/11/2014 02:59:53	OS				PATT ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:04:25	CO				MG: CTRL.. FOR AV ANY PERSONS UNACCOUNTED FOR?.. WAIT ONE...
25/11/2014 03:06:00	CO				MG: CTRL.. PRESENTLY STILL FINDING OUT IF THERE ARE ANY PERSONS STILL
25/11/2014 03:06:00	CO				MG: UNACCOUNTED FOR AND WILL PASS THIS ON WHEN KNOWN...
25/11/2014 03:06:39	CO				======FROM FSCC MOVE PT7 TO N01 AND CANCELL P35B=====
25/11/2014 03:06:40	OS				CU1 ,### LATROBE ST CONTROL
25/11/2014 03:06:44	OS				FIUA ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:08:47	CO				MG: CTRL.. BA STAGE TWO IN OPERATION IS LOCATED AT THE ENTRY TO THE FOYER OF

25/11/2014 03:08:47	CO				MG: THE BUILDING IN LATROBE ST...
25/11/2014 03:09:00	CO				NA: FSCC, SUPV
25/11/2014 03:09:07	OS				BS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:10:22	OS				MELE ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:10:23	CO				MG: MOVE UP P7 TO FS01 - PT22 TO FS02 - P51 TO FS03 - P14 TO FS04 - P25A TO
25/11/2014 03:10:23	CO				MG: FS10 - P42 TO FS38 - P34 TO FS39 - P43 TO FS47
25/11/2014 03:11:03	CO				== DOUBTFUL ADDRESS==
25/11/2014 03:11:48	CO				MG: DISREGARD ABOVE MG
25/11/2014 03:13:40	CO				T10A returning with a crew of 2
25/11/2014 03:13:40	RS				T10A ,2
25/11/2014 03:13:51	CO				MG: T10A RETURNING TO COLLECT THE FIRE DUTY POD...
25/11/2014 03:15:49	CO				MG: CTRL.. ADDITIONAL FGD CH FOR COMMAND COMMUNICATIONS...
25/11/2014 03:15:59	DE				FGD13
25/11/2014 03:16:01	CO				TN: -----
25/11/2014 03:16:07	TO				FGD13 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:16:09	OS				FGD13 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:16:30	OS				FGD13 ,### ADDITIONAL COMMAND COMMUNICATIONS
25/11/2014 03:22:46	CO				BS38 returning with a crew of 1
25/11/2014 03:22:46	RS				BS38 ,1
25/11/2014 03:30:20	IS				BS38 ,FS38
25/11/2014 03:34:12	CO				MG: MU R25 TO FS35
25/11/2014 03:36:22	TO				KLB ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:36:45	CO				MG: T10A NOW PROCEEDING WITH THE FIRE DUTY POD...
25/11/2014 03:41:43	TO				T10A ,2
25/11/2014 03:41:46	OS				T10A ,2
25/11/2014 03:43:55	CO				MG: CTRL.. CAN WE HAVE TWO MORE APPL FOR MANPOWER...
25/11/2014 03:44:23	DE				P51-FS03
25/11/2014 03:44:23	DE				PT22-FS02
25/11/2014 03:44:24	CO				TN: -----
25/11/2014 03:44:35	CO				TA: P51 turned out while at FS03
25/11/2014 03:45:19	TO				BS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:45:20	CO				MG: CTRL.. EVACUATION CENTRE HAS BEEN SET UP AT THE VIC RAIL BUS CENTRE
25/11/2014 03:45:20	CO				MG: EVACUEES ARE CURRENTLY BEING MOVED THERE
25/11/2014 03:46:26	CO				MG: CTRL.. ACFO BROWN A FURTHER TWO APPLS TO BE DISPATCHED FOR RESOURCING, SES
25/11/2014 03:46:26	CO				MG: TO ALSO BE DISPATCHED TO ASSIST WITH EVACUATIONS...

25/11/2014 03:46:42	TO				PT22-FS02 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:46:43	CO				MG: CTRL.. TB44 IS NOW AVAILABLE FOR ANY 2ND ALARM AND ABOVE CALLS...
25/11/2014 03:46:57	TO				P51-FS03 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:47:20	CO				TN: -----
25/11/2014 03:47:20	DE				P34-FS39
25/11/2014 03:47:20	DE				P42-FS38
25/11/2014 03:47:32	CO				TA: P42 turned out while at FS38
25/11/2014 03:48:21	CO				MG: CTRL.. CAN WE HAVE THE MELBOURNE CITY COUNCIL BUILDING INSPECTOR TO ATTEND
25/11/2014 03:48:21	CO				MG: ASAP...
25/11/2014 03:48:30	CO				=====FSCC NOTIFIED COMMANDER LANDELLS TO ATTEND NO1======
25/11/2014 03:48:42	CO				MG: MOVE UP P20 TO FS02 - PT30 TO FS20 AND P31 TO FS03
25/11/2014 03:48:45	OS				PT22-FS02 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:49:41	TO				P34-FS39 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:49:44	TO				P42-FS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:50:58	CO				NA: ATL RE. UNABLE TO CAS SES - SYSTEM ERROT
25/11/2014 03:51:50	CO				NA: MELBOURNE COUNCIL - POL ACTIVATED THE MERO RESPONSE WHICH INCLUDES
25/11/2014 03:51:50	CO				NA: BUILDING INSPECTOR - WILL CALL TTHE MERO TO CONFIRM
25/11/2014 03:52:35	CO				MG: CTRL... FOR APPL STAGING AREA IS LATROBE ST JUST WEST OF SPENCER ST...
25/11/2014 03:53:14	OS				P51-FS03 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:54:19	OS				P42-FS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:54:23	CO				MG: CTRL.. FROM MR YOUSSEF CAN WE HAVE THE SES COMMAND VEH FROM KNOX MCV01 TO
25/11/2014 03:54:23	CO				MG: ASSIST WITH THE MANAGEMENT OF EVACUEES AT THE BUS DEPOT
25/11/2014 03:54:26	OS				BS38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:55:17	CO				NA: SUPV RE REQUEST FOR KNOX MCVO1
25/11/2014 03:55:40	OS				P34-FS39 ,673 LATROBE ST,DOCKLANDS
25/11/2014 03:57:12	CO				** Cross Referenced to Event # S141131144 at: 25/11/14 03:57:12
25/11/2014 03:57:23	CO				NA: SES VIA CAS
25/11/2014 04:02:09	CO				BS38 returning with a crew of 1
25/11/2014 04:02:09	RS				BS38 ,1
25/11/2014 04:03:36	CO				======FROM FSCC SEND COMMANDER LANDELLS ONTO THIS CALL=====
25/11/2014 04:06:14	CO				====FSCC NOTIFIED A/CMDR SELLECK TO ATTEND NO1======
25/11/2014 04:06:24	CO				MG: TO CTRL - HOW LONG DOES THE POWER TO THE TRAMLINES NEED TO BE TURNED OFF
25/11/2014 04:06:24	CO				MG: FOR? / CTRL - STANDBY
25/11/2014 04:06:38	TO				TLAN ,673 LATROBE ST,DOCKLANDS
25/11/2014 04:07:21	CO				MG: TO CTRL - CAN YOU ALSO PLEASE PROVIDE A CONTACT NUMBER FOR SES TO CONTACT?

25/11/2014 04:07:21	CO				MG: / CTRL - STANDBY
25/11/2014 04:10:15	CO				MG: CTRL.. CONTACT NUMBER FOR SES TO CONTACT IS - MR YOUSEFF ON 0438089082
25/11/2014 04:11:49	CO				MG: CTRL.. WE WILL CONTACT TRAMWAYS IN ABOUT 30 MINS
25/11/2014 04:12:07	IS				BS38 ,FS38
25/11/2014 04:12:41	CO				MG: CTRL.. HAVE SOMEONE FROM OTIS LIFTS CONTACT CU1B ON MOBILE
25/11/2014 04:12:57	CO				NA: TRAMWAYS
25/11/2014 04:19:34	CO				NA: OTIS- DOESN'T APPEAR THAT WE MAINTAIN THAT LIFT. IV FURTHER
25/11/2014 04:20:24	CO				MG: CTRL ACK ABOVE RE. OTIS / CTRL WILL CHECK LIFT CO AND ADV
25/11/2014 04:23:20	OS				TLAN ,673 LATROBE ST,DOCKLANDS
25/11/2014 04:29:19	CO				NA: OTIS- THEY DEFINITELY DO NOT MAINTAIN THIS SITE
25/11/2014 04:30:41	CO				T10A returning with a crew of 2
25/11/2014 04:30:41	RS				T10A ,2
25/11/2014 04:31:13	OS				KLB ,673 LATROBE ST,DOCKLANDS
25/11/2014 04:33:41	CO				TB44 returning with a crew of 4
25/11/2014 04:33:41	RS				TB44 ,4
25/11/2014 04:34:50	CO				LP47 returning with a crew of 2
25/11/2014 04:34:50	RS				LP47 ,2
25/11/2014 04:35:42	RS				TB44 ,4
25/11/2014 04:36:44	CO				NA: TRAMWAYS CALLED IN TO CONFIRM THEY CAN RESTORE POWER AFTER SOMEONE ON
25/11/2014 04:36:44	CO				NA: SCENE TOLD THEM THEY COULD - GIVEN CU1B PHONE NUMBER
25/11/2014 04:41:18	CO				MG: CTRL.. R3 NOW AUTO SELECTABLE...
25/11/2014 04:41:26	OS				R3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 04:42:29	IS				T10A ,FS10
25/11/2014 04:46:48	IS				LP47 ,FS47
25/11/2014 04:50:29	IS				TB44 ,FS44
25/11/2014 04:56:19	CO				MG: CTRL.. ACFO BROWN ETA FOR SES?...
25/11/2014 04:58:24	CO				MG: P2B RETURNING TO FS02 FOR KEYS FOR THIS ADDRESS...
25/11/2014 04:58:59	CO				=====FSCC NOTIFIED MES AND BMS WHEN RAISED TO 4TH ALARM====
25/11/2014 05:05:05	CO				R3 returning with a crew of 2
25/11/2014 05:05:05	RS				R3 ,2
25/11/2014 05:08:47	CO				UP1 returning with a crew of 3
25/11/2014 05:08:47	RS				UP1 ,3
25/11/2014 05:10:00	CO				MG: CTRL.. LEMARK FIRE SERVICES TO ATTEND AND DEAL WITH A FAULTY ALARM...
25/11/2014 05:10:07	IS				R3 ,FS03
25/11/2014 05:10:18	CO				MG: P2B RETURNING TO EVENT WITH KEYS...

25/11/2014 05:10:23	RS				P3 ,4
25/11/2014 05:10:24	CO				P3 returning with a crew of 4
25/11/2014 05:10:34	IS				P3 ,4
25/11/2014 05:10:39	CO				P38B returning with a crew of 4
25/11/2014 05:10:39	RS				P38B ,4
25/11/2014 05:11:03	RS				P38B ,4
25/11/2014 05:13:09	CO				MG: CTRL.. FOR MAINTENANCE SPRINKLER AND ALARM OR JUST SPRINKLER TECH
25/11/2014 05:13:09	CO				MG: REQUIRED?.. WAIT...
25/11/2014 05:14:13	CO				MG: CTRL.. ISSUE IS WITH BOTH SPRINKLER AND ALARM SO REQUIRED TECHNICIAN FOR
25/11/2014 05:14:13	CO				MG: BOTH...
25/11/2014 05:14:38	CO				NA: ADT- WILL HAVE MAINTENANCE ATTEND @05:10
25/11/2014 05:15:19	CO				P1B returning with a crew of 4
25/11/2014 05:15:19	RS				P1B ,4
25/11/2014 05:17:55	IS				UP1
25/11/2014 05:17:59	CO				MG: CTRL.. LIFT CO TO ATTEND, KONE ON 1300 362 022
25/11/2014 05:18:28	RS				P47 ,4
25/11/2014 05:18:29	CO				P47 returning with a crew of 4
25/11/2014 05:18:43	IS				P47 ,PPC
25/11/2014 05:18:53	CO				P2B returning with a crew of 3
25/11/2014 05:18:53	RS				P2B ,3
25/11/2014 05:19:09	IS				P2B ,PPC
25/11/2014 05:20:55	CO				NA: KONE- WILL CONTACT CTRL TO ASCERTAIN REQUIREMENTS
25/11/2014 05:21:15	IS				P38B ,FS38
25/11/2014 05:22:24	CO				DAY returning with a crew of 1
25/11/2014 05:22:24	RS				DAY ,1
25/11/2014 05:22:29	IS				DAY ,@HOME - STRATHMORE
25/11/2014 05:24:36	IS				P1B ,PPC
25/11/2014 05:24:38	RS				P4 ,4
25/11/2014 05:24:39	CO				P4 returning with a crew of 4
25/11/2014 05:27:11	CO				P2A returning with a crew of 4
25/11/2014 05:27:11	RS				P2A ,4
25/11/2014 05:27:21	IS				P2A ,PPC
25/11/2014 05:30:31	CO				MG: P47 - WILL PHONE TO ADV WHEN BACK IN COMMISSION
25/11/2014 05:35:32	CO				LP1 returning with a crew of 2
25/11/2014 05:35:32	RS				LP1 ,2

25/11/2014 05:35:47	IS				P4 ,FS04
25/11/2014 05:39:12	CO				MG: CTRL- HZ38 REQUIRED FOR THIS CALL FOR ATMOSPHERIC MONITORING
25/11/2014 05:39:35	CO				SC: HZ38 REQD FOR ATMOSPHERIC MONITORING
25/11/2014 05:39:45	CO				TN: -----
25/11/2014 05:39:45	DE				HZ38
25/11/2014 05:40:19	CO				SC: FIRE IN APARTMENT ON LEVEL 2
25/11/2014 05:42:21	TO				HZ38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 05:44:07	CO				MG: TO CTRL - IS THERE A STAGING AREA FOR HZ38/IF THEY CAN JUST ATTEND VIA
25/11/2014 05:44:07	CO				MG: SPENCER ST TO THE JOB/ACK
25/11/2014 05:48:19	OS				HZ38 ,673 LATROBE ST,DOCKLANDS
25/11/2014 05:50:20	IS				LP1 ,FS01
25/11/2014 06:14:06	CO				P1A returning with a crew of 4
25/11/2014 06:14:06	RS				P1A ,4
25/11/2014 06:14:23	CO				PATT returning with a crew of 1
25/11/2014 06:14:23	RS				PATT ,1
25/11/2014 06:16:58	CO				NA: 0308 UC NOTIFICATION PAGE SENT OUT
25/11/2014 06:21:01	CO				P39B returning with a crew of 4
25/11/2014 06:21:01	RS				P39B ,4
25/11/2014 06:21:08	CO				P39A returning with a crew of 3
25/11/2014 06:21:08	RS				P39A ,3
25/11/2014 06:21:26	IS				P39A ,DUE TO PPC
25/11/2014 06:24:24	CO				P38A returning with a crew of 4
25/11/2014 06:24:24	RS				P38A ,4
25/11/2014 06:24:49	IS				P38A ,DUE TO PPC
25/11/2014 06:33:09	IS				P39B ,FS39
25/11/2014 06:35:45	CO				MG: CTRL - DCFO BROWN MERO AND VICPOL HAVE COMMENCED RELOCATING EVACUEES FROM
25/11/2014 06:35:45	CO				MG: SPENCER ST BUS SHELTER TO ETIHAD STADIUM
25/11/2014 07:07:37	TO				MOCO ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:08:20	CO				BA38 returning with a crew of 2
25/11/2014 07:08:20	RS				BA38 ,2
25/11/2014 07:08:32	CO				MG: CTRL - UPDATED WEATHER FORECAST REQUIRED
25/11/2014 07:12:13	CO				MG: CTRL - MR BROWN - AIR MONITORING CONDUCTED BY HZ38...NIL HAZ MATERIALS
25/11/2014 07:12:13	CO				MG: DETECTED
25/11/2014 07:12:56	TO				PROG ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:12:59	IS				P1A

25/11/2014 07:14:14	CO				NA: BUREAU OF METEOROLOGY - UNCHANGED CONDITIONS TODAY - CURRENTLY 12 DEG
25/11/2014 07:14:14	CO				NA: HUMIDITY OF 70% . REACHING 20DEG TODAY WITH HUMIDITY DROPPING TO 35%
25/11/2014 07:14:14	CO				NA: EARLY AFTERNOON . SMALL CHANCE OF SHOWER. WINDS AREIN WESTERLY AT
25/11/2014 07:14:14	CO				NA: 20-30KM/H TURNING TO SSW THIS AFTERNOON AT SIMILAR STRENGTH
25/11/2014 07:15:07	CO				MG: TO CTRL - ADV ABOVE
25/11/2014 07:16:02	CO				MG: APPLS ADV ACK
25/11/2014 07:21:43	CO				HZ38 returning with a crew of 2
25/11/2014 07:21:43	RS				HZ38 ,2
25/11/2014 07:22:00	IS				PATT ,[W] CMDR OPS C PLATOON - WEST
25/11/2014 07:27:53	TO				GMCC ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:29:25	IS				BA38 ,FS38
25/11/2014 07:35:41	IS				HZ38 ,FS38
25/11/2014 07:44:43	TO				FIUB ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:48:40	OS				PROG ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:50:41	TO				PATT ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:55:24	OS				GMCC ,673 LATROBE ST,DOCKLANDS
25/11/2014 07:57:11	DE				P35B
25/11/2014 07:57:12	CO				TN: -----
25/11/2014 07:57:23	TO				P35B ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:00:31	IS				PATT
25/11/2014 08:01:27	TO				MBAK ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:01:30	OS				MBAK ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:01:32	OS				MOCO ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:09:18	CO				MG: P25B OUT FOR LATE FIRE
25/11/2014 08:09:52	TO				P25B ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:11:32	TO				MCOO ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:12:16	CO				TN: -----
25/11/2014 08:12:16	DE				P2B
25/11/2014 08:12:24	TO				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:12:34	CO				MG: P2B- OUT TO LATE FIRE WITH CHANGE OVER CREW
25/11/2014 08:15:36	OS				FIUB ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:21:56	CO				MG: CTRL - UPDATED WEATHER FORECAST FOCUSED ON WIND STRENGTH FOR THE NEXT FOUR
25/11/2014 08:21:56	CO				MG: HOUR PERIOD
25/11/2014 08:22:05	OS				P2B ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:24:21	OS				P35B ,673 LATROBE ST,DOCKLANDS

25/11/2014 08:25:27	TO				AOC6 ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:25:29	CO				NA: BOM - IS CURRENTLY WESTERLY 10KPH, OVER NEXT 4HRS WILL CHANGE TO SOUTH
25/11/2014 08:25:29	CO				NA: WESTERLY INCREASING TO 20KPH
25/11/2014 08:26:44	CO				MG: AOC6 - BUILDING INSPECTION AND COMPLIANCE UNIT AND MYSELF ON SCENE
25/11/2014 08:27:04	CO				CTRL -
25/11/2014 08:27:54	CO				MG: CTRL - ADV WIND FORECAST
25/11/2014 08:30:04	CO				MG: PT44 - CAN WE HAVE A STAGING AREA/LATROBE ST WEST OF SPENCER ST
25/11/2014 08:30:24	DE				PT44
25/11/2014 08:30:25	CO				TN: -----
25/11/2014 08:30:34	TO				PT44 ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:33:28	TO				DC1A ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:33:50	CO				MG: DC1A OUT FOR CHANGEOVER OF CREWS FOR CONTROL UNIT
25/11/2014 08:34:36	CO				RAMP returning with a crew of 1
25/11/2014 08:34:36	RS				RAMP ,1
25/11/2014 08:34:40	IS				RAMP ,@FS01
25/11/2014 08:35:59	TO				P43 ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:45:49	CO				P10B returning with a crew of 4
25/11/2014 08:49:46	OS				DC1A ,673 LATROBE ST,DOCKLANDS
25/11/2014 08:53:55	CO				P34 returning with a crew of 4
25/11/2014 08:53:55	RS				P34-FS39 ,4
25/11/2014 08:54:01	RS				P34-FS39 ,4
25/11/2014 08:57:30	CO				DC1A returning with a crew of 2
25/11/2014 09:14:43	CO				MG: CTRL - HAVE AN ETA ON ARRIVAL P25B..PT44..P43/STANDBY
25/11/2014 09:15:24	CO				MG: P25B - ETA 15 MINS AT WURRINDJERI WAY..
25/11/2014 09:15:33	CO				MG: PT44 IS ALSO 15 MISN AWAY
25/11/2014 09:17:44	CO				MG: P43 STUCK IN TRAFFIC APPROX 15-20MINS CHANGING TO CHANNEL 1
25/11/2014 09:17:58	CO				MG: TO CTRL ETA FOR P43 ALSO 15-20 MINS..STUCK IN TRAFFIC
25/11/2014 09:19:01	IS				P34 ,@FS39
25/11/2014 09:33:02	CO				MG: PT22 - CAN YOU ADV WHETHER P25B IS ON SCENE/ETA 5 MINS
25/11/2014 09:34:47	OS				P25B ,673 LATROBE ST,DOCKLANDS
25/11/2014 09:35:46	CO				PT22 returning with a crew of 4
25/11/2014 09:35:46	RS				PT22-FS02 ,4
25/11/2014 09:36:37	IS				PT22 ,INSPECTING
25/11/2014 09:37:59	OS				PT44 ,673 LATROBE ST,DOCKLANDS
25/11/2014 09:44:56	CO				P51 returning with a crew of 4

25/11/2014 09:44:56	RS				P51-FS03 ,4
25/11/2014 09:45:00	IS				P51 ,INSPECTING
25/11/2014 09:48:32	CO				MG: SSO BOWEN FROM FS02 RANG IN - REQUESTED CTL POINT TO CALL HIM - IN
25/11/2014 09:48:32	CO				MG: RELATION TO WHEN RESIDENTS MAY BE ABLE TO RETURN
25/11/2014 09:50:35	CO				MG: TO CTRL - ADV ABOVE
25/11/2014 09:52:02	CO				MG: CTRL - ACFO OCONNOR IS INCIDENT CONTROLLER..ACFO BROWN WILL BE RETURNING
25/11/2014 09:52:02	CO				MG: AFTER BRIEFING ACFO OCONNOR
25/11/2014 09:52:13	CO				AOC8 returning with a crew of 1
25/11/2014 09:52:13	RS				AOC8 ,1
25/11/2014 10:02:13	CO				P42 returning with a crew of 4
25/11/2014 10:02:13	RS				P42-FS38 ,4
25/11/2014 10:02:19	IS				P42 ,INSPECTING
25/11/2014 10:04:29	CO				MELE returning with a crew of 1
25/11/2014 10:04:29	RS				MELE ,1
25/11/2014 10:04:35	CO				TLAN returning with a crew of 1
25/11/2014 10:04:35	RS				TLAN ,1
25/11/2014 10:04:48	IS				MELE ,@FS26
25/11/2014 10:04:50	IS				TLAN ,@FS01
25/11/2014 10:10:24	OS				P43 ,673 LATROBE ST,DOCKLANDS
25/11/2014 10:14:20	CO				KLB returning with a crew of 1
25/11/2014 10:14:20	RS				KLB ,1
25/11/2014 10:17:21	CO				MG: CTRL - ACFO COOMBES - CAN WE HAVE ADT ISOLATE THE ALARM PANEL UNTIL
25/11/2014 10:17:21	CO				MG: FURTHER NOTICE
25/11/2014 10:21:11	CO				NA: ADT - CAN ONLY ISOLATE FOR 12HRS SO UNTIL 2220 25.11.14
25/11/2014 10:22:47	IS				KLB ,@HOME - EAST MELBOURNE
25/11/2014 10:30:37	OS				MCOO ,673 LATROBE ST,DOCKLANDS
25/11/2014 10:30:41	CO				MCOO returning with a crew of 1
25/11/2014 10:30:41	RS				MCOO ,1
25/11/2014 10:31:04	IS				MCOO ,@FS24
25/11/2014 10:38:55	CO				CKAT returning with a crew of 1
25/11/2014 10:38:55	RS				CKAT ,1
25/11/2014 10:45:01	IS				AOC8 ,@FS42
25/11/2014 11:18:09	IS				CKAT
25/11/2014 11:48:10	CO				AOC6 returning with a crew of 1
25/11/2014 11:48:19	IS				AOC6 ,@FS08

25/11/2014 12:30:20	CO				MG: CTRL - CU1 NEEDS UNLEADED FUEL FOR THEIR GENERATOR..CAN YOU CONTACT
25/11/2014 12:30:20	CO				MG: WORKSHOPS IF THEY CAN COME OUT TO THIS CALL AND REFILL OUR GENERATORS
25/11/2014 13:24:12	CO				FIUA returning with a crew of 1
25/11/2014 13:24:12	RS				FIUA ,1
25/11/2014 13:41:32	IS				FIUA
25/11/2014 14:19:22	CO				MG: CTRL - ACFO OCONNOR WE HAVE TRANSITIONED FROM OPERATIONS TO RECOVERY
25/11/2014 14:19:22	CO				MG: MODE..THE PERSON NOW IN CHARGE IS MR DEAN GRIGGS..MELBOURNE CITY COUNCIL
25/11/2014 14:19:22	CO				MG: RECOVERY MANAGER..
25/11/2014 14:20:05	CO				MG: CTRL - MFB RESOURCES WILL BE DOWNGRADING IN THE NEXT HOUR..AND ALL MFB
25/11/2014 14:20:05	CO				MG: OPERATIONS WILL BE CONCLUDED IN THE NEXT HOUR TO HOUR AND A HALF
25/11/2014 14:21:54	CO				== CFA EMR - Handover to AV ==
25/11/2014 14:48:06	TO				T10B ,673 LATROBE ST,DOCKLANDS
25/11/2014 14:48:15	CO				MG: T10B ER TO PICK UP FIRE DUTY POD
25/11/2014 15:13:08	CO				P43 returning with a crew of 4
25/11/2014 15:13:08	RS				P43 ,4
25/11/2014 15:14:43	CO				MG: CMDR MBAK AT THE CONCLUSION OF THE EMT MEETING SCENE HANDED TO DEAN
25/11/2014 15:14:43	CO				MG: GRIGGS FROM MELBOURNE CITY COUNCIL.....ALL MFB CREWS RETURNING..FIA AND
25/11/2014 15:14:43	CO				MG: P2B WILL REMAIN ON SCENE FOR THE NEXT 30-60 MINS
25/11/2014 15:14:48	CO				PT44 returning with a crew of 4
25/11/2014 15:14:48	RS				PT44 ,4
25/11/2014 15:14:53	CO				P25B returning with a crew of 4
25/11/2014 15:14:53	RS				P25B ,4
25/11/2014 15:19:21	CO				P35B returning with a crew of 3
25/11/2014 15:19:21	RS				P35B ,3
25/11/2014 15:22:10	CO				PROG returning with a crew of 1
25/11/2014 15:24:51	CO				MG: P3 - SSO DELANY - CAN YOU ATTACH US TO LATE FIRE AT DOCKLANDS..WE ARE
25/11/2014 15:24:51	CO				MG: PICKING UP GEAR AND AUTOSELECTABLE
25/11/2014 15:25:09	DE				P3
25/11/2014 15:25:10	CO				TN: -----
25/11/2014 15:25:17	TO				P3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 15:25:19	OS				P3 ,673 LATROBE ST,DOCKLANDS
25/11/2014 15:28:41	CO				NA: ADT - WILL ISOLATE THE ALARM FOR A MAXIMUM OF 3.5HRS AND TRY TO GET
25/11/2014 15:28:41	CO				NA: MAINTENENCE TO ATTEND BEFORE THEN
25/11/2014 15:31:07	IS				P3 ,APPLIANCE REDIRECTED TO INCIDENT15888
25/11/2014 15:31:37	IS				P35B ,FS35

25/11/2014 15:32:30	CO				GMCC returning with a crew of 1
25/11/2014 15:32:30	RS				GMCC ,1
25/11/2014 15:33:20	RS				P43 ,4
25/11/2014 15:34:53	CO				CU1 returning with a crew of 2
25/11/2014 15:34:53	RS				CU1 ,2
25/11/2014 15:34:59	IS				CU1 ,OBTAINING FUEL
25/11/2014 15:36:00	IS				P43 ,FS43
25/11/2014 15:36:05	CO				MG: DISREGARD ABOVE RE ADT MESSAGE
25/11/2014 15:38:25	IS				PT44 ,FS44
25/11/2014 15:42:16	CO				MBAK returning with a crew of 1
25/11/2014 15:42:16	RS				MBAK ,1
25/11/2014 15:49:58	RS				P25B ,4
25/11/2014 15:51:39	OS				T10B ,673 LATROBE ST,DOCKLANDS
25/11/2014 15:51:45	CO				T10B returning with a crew of 1
25/11/2014 15:51:45	RS				T10B ,1
25/11/2014 15:53:25	IS				MBAK ,FS01
25/11/2014 15:55:55	CO				P2B returning with a crew of 3
25/11/2014 15:55:55	RS				P2B ,3
25/11/2014 15:56:10	IS				P25B ,FS25
25/11/2014 15:59:01	IS				P2B ,FS02
25/11/2014 16:19:10	IS				T10B ,FS10
25/11/2014 16:29:49	CO				MG: FIUB CONCLUDED AT THIS ADDRESS
25/11/2014 16:29:55	CO				FIUB returning with a crew of 1
25/11/2014 16:29:55	RS				FIUB ,1
25/11/2014 16:43:25	IS				GMCC ,@FS60
25/11/2014 16:48:57	IS				FIUB
25/11/2014 17:17:50	CO				MOCO returning with a crew of 1
25/11/2014 17:17:50	RS				MOCO ,1
25/11/2014 17:17:52	IS				MOCO ,@FS12
25/11/2014 17:19:22	RS				FGD15
25/11/2014 17:19:47	RS				FGD13
25/11/2014 17:20:05	CO				** Duplicate Event:Location = 673 LATROBE ST DOCKLANDS #MFB-T3008000701-1, Cross
25/11/2014 17:20:05	CO				Street 1 = HARBOUR ESP, Type = 672 FIRE INDICATOR PANEL, Subtype = default,
25/11/2014 17:20:05	CO				Caller Name = MFB / , Caller Address = FIRE INDICATOR PANEL, Call Source = FIP,
25/11/2014 17:20:05	CO				Alarm Level = 1

25/11/2014 17:20:06	CO				AR: REFERENCE for MFB-T3008000701-1 is 186994811
25/11/2014 17:20:06	CO				NE: F141115657 611 1 m
25/11/2014 17:20:06	CO				** Event held for 60 minutes and unit FGD15
25/11/2014 17:20:06	CO				=== HELD FOR EVENT #15657 ===
25/11/2014 17:20:06	CO				** Event held for 28799 minutes and unit FGD15
25/11/2014 17:20:06	CO				NA: ADT - CAN ONLY ISOLATE FOR 12HRS SO UNTIL 2220 25.11.14
25/11/2014 17:20:06	CO				NA: ADT - STATUS IS NORMAL
25/11/2014 17:20:06	CO				SAME EVENT
25/11/2014 17:20:06	CO				AL: MFB-T3008000701-1 02:25:07 INITIAL - AL
25/11/2014 17:20:06	CO				PN: LACROSSE BUILDING
25/11/2014 17:20:06	CO				SC: ASE - FIRE CONTROL ROOM RHS FRONT, INPUT - FIRE CONTROL ROOM STREET LEVEL
25/11/2014 17:20:06	CO				KEYS FS02, PEG 142
25/11/2014 17:20:06	CO				AL: MFB-T3008000701-1 09:00:14 UPDATE - normal
25/11/2014 17:20:06	CO				AL: MFB-T3008000701-1 09:00:19 UPDATE - AL
25/11/2014 17:20:06	CO				AL: MFB-T3008000701-1 09:01:08 UPDATE - normal
25/11/2014 17:20:06	CO				AL: MFB-T3008000701-1 09:01:15 UPDATE - AL
25/11/2014 17:20:18	CO				NA: FSCC - OK TO CLOSE CALL
25/11/2014 17:20:33	EC				
25/11/2014 18:27:25	IS				FGD15 ,APPLIANCE REDIRECTED TO INCIDENT15965
25/11/2014 18:31:04	IS				FGD13 ,APPLIANCE REDIRECTED TO INCIDENT15968