

IN THE CORONERS COURT  
OF VICTORIA  
AT MELBOURNE

Court Reference: COR 2009 5966

**FINDING INTO DEATH WITH INQUEST<sup>1</sup>**

*Form 38 Rule 60(2)*

*Section 67 of the Coroners Act 2008*

**Inquest into the death of: TIMOTHY JOSEPH DE VOIGT**

Distributed On:	23 November 2015
Hearing Dates:	3 November 2011, 6 February 2012, 21 March 2012 and 13 August 2012
Finding of:	AUDREY JAMIESON, CORONER
Appearances:	Mr John Murphy on behalf of Energy Safe Victoria Ms Catherine Dunlop on behalf of the Metropolitan Fire Brigade
Counsel Assisting	Leading Senior Constable Remo Antolini, Police Coronial Support Unit

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<sup>1</sup> The Finding does not purport to refer to all aspects of the evidence obtained in the course of the investigation. The material relied upon included statements and documents tendered in evidence together with the transcript of proceedings and submissions of legal representatives and counsel. The absence of reference to any particular aspect of the evidence, either obtained through a witness or tendered in evidence does not infer that it has not been considered.

I, AUDREY JAMIESON, Coroner having investigated the death of TIMOTHY JOSEPH DE VOIGT

AND having held an Inquest in relation to this death on 13 August 2012

at the Coroners Court of Victoria at Melbourne

find that the identity of the deceased was TIMOTHY JOSEPH DE VOIGT

born on 14 September 1997

and the death occurred on 26 December 2009

at 36 Avene Street, Cranbourne VIC 3977

from:

1(a) EFFECTS OF FIRE

in the following circumstances:

1. On 26 December 2009, Timothy Joseph De Voigt died in a fire that occurred in his family home at Cranbourne.

#### **BACKGROUND AND CIRCUMSTANCES**

2. Timothy (hereafter referred to as 'Tim') was 12 years old at the time of his death. He was a school student and resided with his family at Cranbourne. He is survived by his mother Donna, father Martin and siblings Joshua, Zachary, Bradley and Shelby, with whom he shared close and loving relationships.
3. On 25 December 2009 the De Voigt family celebrated Christmas at their home with friends and neighbours from approximately 4.30pm until the late evening. At approximately 11.00pm everybody had left and Tim continued to play the Nintendo Wii with his brother Joshua in the rumpus room, located outside their shared bedroom. Mrs De Voigt watched television in the lounge room with the remaining children and all family members fell asleep by approximately 11.30pm.<sup>2</sup>
4. At approximately 2.29am<sup>3</sup> on 26 December 2009, Mrs De Voigt awoke to Joshua yelling out that he and Tim's bedroom was on fire. Upon entering the boys' bedroom, Mrs De Voigt

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<sup>2</sup> Exhibit 4, Statement of Donna De Voigt, dated 14 January 2010, Inquest brief, 15; Statement of Martin De Voigt, dated 26 December 2009, Inquest brief, 20.

<sup>3</sup> Exhibit 4, Statement of Cassandra Stewart, dated 18 February 2010, Inquest brief, 27; MFB Fire Investigation and Analysis Fire Investigation Report of Station Officer Rod East, Inquest brief, 62.

began gagging from the smell and could not see. She observed smoke up to the height of Tim's top bunk bed and observed flames on the nearby curtain. Mrs De Voigt could not see Tim or his bunk bed. She called out to him to get out and called out to her husband, who awoke after hearing her call for help. Due to the increasing intensity of the fire and smoke, Mrs De Voigt left the bedroom to take the remaining children to safety outside. Once outside with the children she observed that thick black smoke had filled the entirety of the house.<sup>4</sup>

5. Mr De Voigt exited the house shortly after his wife and children, and immediately alerted his neighbours to the fire, resulting in emergency services being called. Once becoming aware that Tim was still inside, Mr De Voigt attempted to re-enter the home, however due to the growing intensity of the fire he was unable to enter.<sup>5</sup>
6. Multiple fire crews from Cranbourne Fire Station attended shortly thereafter and were informed that a child was still in the house. Fire-fighter David Rochester observed that the fire in the rear bedroom 'had vented and was free burning'. Fire fighters attempted to extinguish the fire through a sliding door on the right hand side of the house and through a rear window on the back wall of the house. Once the fire was partially extinguished and the heat was manageable, fire fighters entered through the side sliding door, accessed the bedroom and located Tim deceased on his bed.<sup>6</sup>

## **POST-MORTEM EXAMINATION**

7. A post-mortem examination and report was undertaken by Dr David Ranson, Deputy Director and Senior Forensic Pathologist at the Victorian Institute of Forensic Medicine. Dr Ranson reported that the autopsy revealed no evidence of significant natural disease of a type that might be expected to have contributed directly or indirectly to the death. The autopsy findings are consistent with the clinical history provided.
8. Toxicological analysis of post-mortem blood specimens detected the presence of carboxyhaemoglobin<sup>7</sup> (~25% saturation).

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<sup>4</sup> Exhibit 4, Statement of Donna De Voigt, dated 14 January 2010, Inquest brief, 15-6.

<sup>5</sup> Exhibit 4, Statement of Martin De Voigt, dated 26 December 2009, Inquest brief, 20.

<sup>6</sup> Exhibit 4, Statement of Alan Cook, dated 26 December 2009, Inquest brief, 48-9; Statement of David Rochester, dated 14 March 2010, Inquest brief, 44-6; Statement of Timothy Lancaster, dated 26 December 2010, Inquest brief, 53-4.

<sup>7</sup> A stable complex of carbon monoxide and haemoglobin that forms in red blood cells upon contact with carbon monoxide. Large quantities of carbon monoxide hinders the ability of haemoglobin to deliver oxygen to the body.

9. Dr Ranson reported that the cause of death is effects of fire.

## INVESTIGATION

### Country Fire Authority ('CFA') and Victoria Police Joint Investigation

10. The CFA and Victoria Police conducted a joint investigation into the fire at approximately 4.00am on 26 December 2009.
11. The house was constructed of brick, with a timber frame, plaster walls and ceilings, and a tiled roof. The rear of the house appeared to be an extension with a dining room, rumpus room and a small bedroom, which was shared by Tim and Joshua. This bedroom had sustained the most pronounced level of burning and was determined to be the area of fire origin. The room was lined with timber, had a weatherboard exterior, a carpeted floor and tiled roof. It contained bunk beds in the eastern corner, a wardrobe and shelving in the southern corner, a desk along the south western wall, a tallboy in the northern corner and a set of side drawers under a north-eastern window.<sup>8</sup>
12. In the bedroom where the fire originated, a double power outlet was located, with a double adaptor plugged into the south western connection. Both switches were on. One extension cord was connected to the power outlet and another extension cord was plugged into one of the double adaptor outlets. One extension cord led to the southern corner and was connected to a four-outlet electrical portable outlet device (hereafter referred to as 'power board') behind the computer desk. The power board and wiring were lightly heat affected. Four appliances were connected to the power board.
13. The north-eastern half of the bedroom had sustained the greatest fire damage with the northern corner having sustained the most pronounced lowest level of burning. On the floor in this area were the remains of a four outlet power board and associated wiring that had melted and partly fused together. The plastic casing of the power board had been consumed and at least two appliances were connected to the power board. Other appliances, including a fan, television, Playstation and charger unit led to the power board, however police could not determine if they were connected.<sup>9</sup>

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<sup>8</sup> Exhibit 4, Statement of Victoria Police Forensic Officer Karen Ireland, Undated, Inquest brief, 151.

<sup>9</sup> Exhibit 4, Statement of Victoria Police Forensic Officer Karen Ireland, Undated, Inquest brief, 152.

14. A smoke detector was located on the hallway floor with a battery fitted. It is unknown if the detector activated during the fire, however it was not heard by the family.<sup>10</sup>
15. As a result of the joint investigation, Victoria Police Forensic Officer ('FO') Karen Ireland reported that the fire started at floor level in the eastern corner of Tim and Joshua's bedroom. The pattern of burning was consistent with the point of origin being in the immediate vicinity of a four-outlet power board. FO Ireland reported that the cause of the fire was determined to be either an electrical fault within the power board or wiring/connections associated with one of the appliances that were connected to the power board. There was no evidence to suggest that any of the appliances in the room were at fault.<sup>11</sup>

### **Metropolitan Fire Brigade ('MFB') Investigation**

16. Following a request by the Coroners Court, the MFB investigated the fire at 10.00am on 12 January 2010, resulting in MFB Station Officer ('SO') Rod East compiling a Fire Investigation Report. The purpose of the investigation was to gain an insight into the fire and to view the area of origin.
17. SO East reported that the switched board for the house was typically two circuits for power fuses (rated at 15 amperes/amps/'A') and one light circuit (rated at 8A). There had been additional circuits added at a later time to protect the installed air conditioners and garage. SO East reported that the switched board is reflective of millions throughout the state and provides adequate electrical safety protection.
18. Examination of the room of fire origin revealed that the only power outlet in the room was located on the south wall. From this was a short extension lead that ran to the west corner of the room where it engaged a four-outlet power board, which appeared to be full. A second extension lead was plugged into the power outlet and the bulk of the 30 metre length was coiled up under the bed. This lead was connected to a four-outlet power board which was located along the east wall of the room under the window. It was stated by Mr and Mrs De

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<sup>10</sup> Exhibit 4, CFA structural report of Country Fire Authority Fire Investigator Kerry Phillips, Structural Report Number 331697, Inquest brief, 221.

<sup>11</sup> Exhibit 4, Statement of Victoria Police Forensic Officer Karen Ireland, Undated, Inquest brief, 153.

Voigt that a second multi-outlet power board was supplied power from the one on the floor along the east wall.<sup>12</sup>

19. SO East reported that at the point of origin, as determined by Victoria Police and the CFA, a mass of cables and leads were located. The fire intensity and burn pattern within this mass of cables indicated a low, early fire. Amongst the burnt debris were the remains of a multi power outlet that had been extensively burnt at one end, and the deep char pattern proceeded over the outlet's entirety. Russell Lee, Consulting Forensic Electrical and Mechanical Engineer and Independent Expert, conducted examination of the remnants of the fire debris, under laboratory conditions. Investigations revealed that the power supply appeared to finish at the power board, as there was evidence of electrical activity into the board. There was also confirmation of electrical activity within the extension lead which led from the power outlet, establishing that at the time of the fire the power was on. Investigations indicated that the most intense and severe fire was in or on the multi-power board.<sup>13</sup>
20. Examination of the internals of the power board revealed heat etched oxidisation to the copper bus strips, which occurs when the strips are exposed to severe heat whilst operating. There was a colour change, which also occurs to copper under heat and electrical current. The thermal overload unit also had fire and heat distortion. Examination of the open thermal overload revealed that the contacts were open with some indicators of heavy arc switching. SO East reported that contacts open when exposed to heat and arcing can occur when the contacts operate under a load, when the unit is drawing a heavy current.<sup>14</sup>
21. A magnified view of the plug pin located within the copper housing strips of the power board revealed signs of mechanical and electrical damage to the internal edges of the copper housings, indicating forceful insertion while under load. SO East reported that there was carbonised fire debris on the internal surfaces of the copper strips within the power board,

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<sup>12</sup> Exhibit 4, Melbourne Fire Brigade Fire Investigation Report of Station Officer Rod East into the fire at 36 Avene Street, Cranbourne, 65-6.

<sup>13</sup> Exhibit 4, Melbourne Fire Brigade Fire Investigation Report of Station Officer Rod East into the fire at 36 Avene Street, Cranbourne, 68.

<sup>14</sup> Exhibit 4, Melbourne Fire Brigade Fire Investigation Report of Station Officer Rod East into the fire at 36 Avene Street, Cranbourne, 70.

indicating there were contaminants within the power board pre-fire, which may have added to the possibility of fire.<sup>15</sup>

22. SO East reported that with the information contained within his report and the exclusion of other ignition sources, he classified the fire as 'electrical' and concluded that the cause of the fire was as a result of an electrical event occurring within the power board.<sup>16</sup>

### **Investigation by Russell Lee, Consulting Forensic Electrical and Mechanical Engineer and Independent Expert**

23. Russell Lee investigated the fire on 12 January 2010, and examined fire artefacts on 10 and 23 February 2010, resulting in him compiling a report.
24. Mr Lee agreed with the MFB, CFA and Victoria Police that the origin of fire was in Tim and Joshua's bedroom, most likely in the northeast corner of the fire compartment and at low level close to the floor.
25. Mr Lee opined that there are two possibilities for the ignition source. The first possibility involved the overheating of a plug connection on a power board discovered within the origin of the fire: 'new electrical arc melts notable on the busbars of the outlet board provide an indication of overheating or at least loose connections at which an overheating condition could occur'. The second possibility is the failure in service of an unidentified electrical device reported to be plugged into the power board: 'the damage to the power board is greatest at that end and area associated with the unidentified device'.<sup>17</sup>
26. Mr Lee reported that there is no evidence to indicate that the single power outlet, double adapter or television were involved as an ignition source.<sup>18</sup>

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<sup>15</sup> Exhibit 4, Melbourne Fire Brigade Fire Investigation Report of Station Officer Rod East into the fire at 36 Averno Street, Cranbourne, 71.

<sup>16</sup> Exhibit 4, Melbourne Fire Brigade Fire Investigation Report of Station Officer Rod East into the fire at 36 Averno Street, Cranbourne, 73.

<sup>17</sup> Exhibit 4, Report of Russell Lee, consulting forensic electrical and mechanical engineer, Inquest brief, 103.

<sup>18</sup> Exhibit 4, Report of Russell Lee, consulting forensic electrical and mechanical engineer, Inquest brief, 90.

## Energy Safe Victoria ('ESV') Investigation

27. Section 7(f) of the *Electricity Safety Act 1998* (Vic) enables ESV to investigate events or incidents that have implications for electrical safety. On 3 and 4 January 2012, ESV Equipment Safety and Efficiency Manager Adam Murdoch and another ESV employee undertook an examination of Victoria Police evidence seized from the fire and compiled an Observation of Electrical Equipment Report.
28. In relation to examination of the bag labelled 'MOPB'<sup>19</sup> Bus Bars and Overload', Mr Murdoch reported that inspection of the busbars revealed the arc mark as described in Mr Lee's report.<sup>20</sup> Measurement of the arc shows that it is less than 1mm in diameter. No other significant arc marks were found. Mr Murdoch reported that although one minor arc mark was found during the examination, he is unable to categorically state that the arc mark was substantial enough to cause a catastrophic electrical fault resulting in fire.
29. In relation to examination of the bag labelled 'MOPB 2' reported that the active busbar is a fundamental component, as it makes the connection to reciprocating plugs supplying the active phase, and as the active busbar was not retrieved from the fire scene it is difficult to draw any conclusions in relation to electrical activity in this power board at the time of the fire. Mr Murdoch reported that the two busbars that were retrieved show more extensive damage when compared with the busbars in the bag labelled 'MOPB Bus Bars and Overload'.
30. In relation to examination of the bag labelled 'GPO & D/A', Mr Murdoch reported that the right hand power outlet has a different burn pattern that suggests the double adaptor was slightly withdrawn from the socket outlet which can, over an extended amount of time, put undue stress on both the outlet and plug. Examination also revealed that the double adaptor was manufactured in the early 1990's.
31. Mr Murdoch reported that it was difficult to draw comprehensive conclusions from the findings, as ESV was not involved in the initial on-site investigation, however the 'unidentified device', as reported by Mr Lee, was not examined and therefore cannot be excluded as a cause of the fire and cannot be explored further as the device is not available for inspection. Mr Murdoch also concluded that the double adaptor could not be excluded as the

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<sup>19</sup> The acronym for 'multi-outlet power board'.

<sup>20</sup> See paragraph 25 of this finding.



cause of the fire, due to the combination of age, its poor connection to the power outlet and the electrical activity observed on the active receptacle of the right hand socket.<sup>21</sup>

## PURPOSE OF THE CORONIAL INVESTIGATION

32. In the preamble to the *Coroners Act 2008* (Vic) ('the Act'), the role of the coronial system in Victoria involves the independent investigation of deaths and fires for the purpose of finding the causes of those deaths and fires and to contribute to the reduction of the number of preventable deaths and fires and the promotion of public health and safety and the administration of justice. Reference to preventable deaths and fires and public health and safety is found in other sections of the Act.<sup>22</sup>
33. The primary purpose of the coronial investigation of a reportable death<sup>23</sup> is to ascertain, if possible, the identity of the deceased, the cause of death (interpreted as the medical cause of death) and the circumstances in which the death occurred.<sup>24</sup>
34. Coroners are also empowered to report to the Attorney-General on a death or fire they have investigated and are empowered to make recommendations to any Minister, public statutory or entity on any matter connected with the death or fire, including recommendations relating to public health and safety or the administration of justice.<sup>25</sup> This is referred to as the 'prevention role' of the coroner.
35. I note that historically, under the *Coroners Act 1985* (Vic) (the 'old Act'), a coroner was obliged to make a finding regarding contribution. In 1999, the old Act was amended to remove this obligation. The absence of this obligation was preserved in the *Coroners Act 2008* (Vic), and is supported by the common law, which maintains that it is not part of a Coroner's role to lay or apportion blame.<sup>26</sup> However, the removal of the obligation does not preclude a coroner from making a finding of contribution, in appropriate cases.

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<sup>21</sup> Statement of Adam Murdoch, Equipment Safety and Efficiency Manager, ESV, dated 30 January 2012, 257-8.

<sup>22</sup> See *Coroners Act 2008* (Vic) ss 67(3), 72 (1) & (2).

<sup>23</sup> Section 4 of the *Coroners Act 2008* (Vic) requires certain deaths to be reported to the coroner for investigation. Apart from a jurisdictional nexus with the State of Victoria, the definition of a reportable death includes all deaths that appear 'to have been unexpected, unnatural or violent or to have resulted, directly or indirectly, from accident or injury. Tim's death falls within this definition.

<sup>24</sup> *Coroners Act 2008* (Vic) s 67.

<sup>25</sup> *Coroners Act 2008* (Vic) ss 72(1), 72(2) and 67(3).

<sup>26</sup> *Keown v Kahn* (1999) VR 69, 76 per Callaway JA.

36. The *Briginshaw*<sup>27</sup> standard of proof is applicable to findings of fact in this Court. As Dixon J espoused:

The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding are considerations which must affect the answer to the question whether the issue has been proved to the reasonable satisfaction of the tribunal. In such matters 'reasonable satisfaction' should not be produced by inexact proof, indefinite testimony or indirect inferences.<sup>28</sup>

### **POWER BOARD RELATED MATTER**

37. On 19 August 2009, a fire occurred at Il Gambero restaurant in Lygon Street, Carlton, in circumstances where a multi-outlet power board was located at the origin of the fire, and where the cause of the fire was either a power board or an appliance connected to the power board.

38. The common threads linking these matters were as follows:

- a. Multi-outlet power boards were located at the origin of both fires;
- b. The cause of both fires was either a power board or an appliance connected to the power board; and
- c. The power boards were being inadvertently misused at the time of both fires.

39. I determined that both the death of Tim and the Il Gambero fire warranted the exercise of my discretion, pursuant to sections 52(1) and 53(1) of the new Act, to hold Inquests. The investigations into the death of Tim and the Il Gambero fire identified similar features including matters related to public health and safety, and I accordingly determined that there was utility to collectively addressing these similarities and collectively exercising my role to contribute, where possible, to the reduction of preventable deaths and fires. I consequently made a determination to hold an Inquest into the death of Tim and the Il Gambero fire, pursuant to section 54 of the Act.

### **INDEPENDENT EXPERT REPORT OF RUSSELL LEE**

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<sup>27</sup> *Briginshaw v Briginshaw* [1938] 60 CLR 33.

<sup>28</sup> *Briginshaw v Briginshaw* [1938] 60 CLR 33 [362]-[363].

40. An independent expert report was sought from Russell Lee, a consulting forensic electrical and mechanical engineer, in relation to multi-outlet power boards generally and in response to specific questions I requested that he address.<sup>29</sup> I have considered this report for the purpose of this Finding.

## **THE EVIDENCE**

41. This finding is based on all the investigation material comprising the coronial brief of evidence, all material obtained after the provision of the brief, the statements and evidence of those witnesses who appeared at the Inquest and any documents tendered through them, other documents tendered through counsel, and submissions made by counsel.
42. The following witnesses gave *Viva voce* evidence at the Inquest:
- a. Mr Ian HUNTER, Manager of the MFB Fire Investigation Analysis Unit;
  - b. Mr Roderick EAST, Station Officer at the MFB Fire Investigation Analysis Unit;
  - c. Mr Russell Lee, Consulting Forensic Electrical and Mechanical Engineer and Independent Expert;
  - d. Mr Adam Murdoch, Manager of Equipment Safety and Efficiency at ESV;
  - e. Mr Neil Fraser, Electrical Installations, Licensing and Equipment Safety Executive Manager at ESV; and
  - f. Mr Goran Sokoleski, Compliance Officer at ESV.

## **ISSUES INVESTIGATED AT INQUEST**

43. At the commencement of the Inquest, it was evident that most of the facts about Tim's death are known and without dispute, including his identity, the medical cause of his death and aspects of the circumstances of his death, including the place of his death.
44. Issues were identified that required further exploration at Inquest, including:
- a. The origin of the fire;
  - b. The cause of the fire;
  - c. Limitations and risks associated with the use of power boards;

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<sup>29</sup> Exhibit 6, Independent expert report of Russell Lee, dated 31 March 2011, Report No. 2010 065-1R, Expert opinion brief, 89.

- d. The Australian/New Zealand Standards in relation to power boards; and
  - e. Whether some power boards are safer than others.
45. There had been some disagreement between various witnesses prior to the Inquest in relation to whether I should accept the MFB's conclusions about the cause and origin of the fires. There had also been some disagreement in relation to limitations and risks associated with power board misuse. This led to the witnesses meeting prior to inquest, discussing these issues and developing a joint report.<sup>30</sup>
46. At Inquest, the witnesses gave concurrent evidence in relation to the conclusions formed in the joint report.

### **Origin of the fire**

47. All expert witnesses agreed with SO East's conclusion that the most likely cause of the fire was as a result of an electrical event occurring within the multi-outlet power board in Tim's bedroom.<sup>31</sup>

### **Cause of the fire**

48. All expert witnesses agreed that the cause of the fire was either the power board or an appliance that was connected to the power board at the time. This conclusion was formed as a result of the fire investigator's reports, attendance at the scene, scene examination, forensic examination of the artefacts, identification of arc melts, correlation between artefacts and identifying the lowest point of burning.<sup>32</sup>

### **Limitations and risks associated with the use of power boards**

#### ***Intended Use***

49. A power board is a block of two or more electrical socket outlets that allows multiple electrical devices to be powered from a single electrical socket.<sup>33</sup> It is designed 'for temporary

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<sup>30</sup> Exhibit 1, Joint report of Mr Murdoch, Mr Lee, Mr Hunter, Mr East and Mr Fraser ('Joint report'), dated 9 August 2012.

<sup>31</sup> Exhibit 1, Joint report, 11; Transcript, 106.

<sup>32</sup> Exhibit 1, Joint report, 12; Transcript, 106.

<sup>33</sup> Exhibit 1, Joint report, 1.

use and not for permanent installation<sup>34</sup> and is generally rated at a maximum total current of 10A for all outlet sockets combined.<sup>35</sup>

### *Misuse and its effect on power boards*

50. All expert witnesses agreed that power boards are most commonly misused due to the public not understanding, or being unaware, that they are misusing power boards.
51. ESV noted that a limited survey of two of an estimated seven suppliers has shown that in the five years up to 2012 the two companies supplied 8.5 million power boards Australia-wide. The average number of failures in the Melbourne metro district that resulted in fire service attendance was approximately 16 per year.<sup>36</sup>
52. Although the cause of the fire in this matter has not been definitively attributed to a power board, the *possibility* that it may have been the cause compels me to investigate the safety of power boards, as it is a matter connected with the circumstances surrounding Tim's death and the Il Gambero fire and is a matter related to public health and safety.<sup>37</sup>
53. Within the joint report a number of examples of inadvertent misuse were identified,<sup>38</sup> some of which were contested, including:
  - a. Overloading power boards;
  - b. Outdoor use;
  - c. Cocooning power boards;
  - d. Damaged power boards being repaired by home handymen;
  - e. Piggy-backing of power boards; and
  - f. Contamination.

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<sup>34</sup> A/NZ Standard 3105 2007, Scope, 1.1; Transcript, 48, 129.

<sup>35</sup> Exhibit 6, Independent expert report of Russell Lee, dated 31 March 2011, Report No. 2010 065-1R, Expert opinion brief, 51, 55.

<sup>36</sup> Exhibit 1, Joint report, 2.

<sup>37</sup> See *Coroners Act 2008* (Vic) s 72 (2).

<sup>38</sup> All of the examples of inadvertent misuse listed within paragraph 53 of this finding were canvassed at Inquest. However, I will only address the examples of misuse relevant to the circumstances surrounding the death of Tim and the Il Gambero fire.

### Overloading power boards

54. All expert witnesses agreed that power boards are generally limited in current rating to a maximum of 10A and that the limitation is regardless of how many outlets are on the power board. Within the report, there was general agreement that ‘people may be unfamiliar with this limitation and may connect loads which may exceed the current rating’.<sup>39</sup> Mr Fraser gave examples of a standard kettle using approximately 8-10A for a very brief length of time, a fan using approximately 10A and a bedside lamp using less than one fifth of 1A. He said that a power board fitted with a 10A lead and overload could not run two appliances such as two kettles, however may be able to run up to 50 bedside lamps, if there were enough outlets.<sup>40</sup>
55. The Australian/New Zealand (‘AS/NZS’) Standards are governed in Australia by Standards Australia, the nation’s peak non-government Standards organisation charged to meet Australia’s need for contemporary, internationally-aligned Standards and related services. Standards are published documents setting out specifications and procedures designed to ensure products, services and systems are safe, reliable and consistently perform the way they were intended to. They establish a common language which defines quality and safety criteria.
56. The AS/NZS mandate that power boards with three or more outlet facilities must incorporate an over current/thermal overload protection device. The MFB submitted that even though this device is fitted, the setting of the device permits an overload condition to persist for a significant time and at a significant level. ESV tendered a report titled ‘Electrical portable outlet device temperature rise tests and comparisons’<sup>41</sup>. The report showed that during testing the over-current cut out of an uncovered power board loaded with a resistive load of 13.75A cut out after 1 minute and 48 seconds. The power board was then loaded with a resistive load of 12A and the overload cut out after 6 minutes. The power board was then loaded with a resistive load of 11A. The temperatures were measured and steady conditions were established after 45 minutes, at which point the amps were increased to 11.5A. Steady conditions were established after 25 minutes and the current was increased to 12A, resulting in the overload cut out operating immediately at this current loading.<sup>42</sup> For a power board to comply with

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<sup>39</sup> Exhibit 1, Joint report, 1.

<sup>40</sup> Transcript, 18.

<sup>41</sup> Exhibit 2, ESV electrical portable outlet device temperature rise tests and comparisons, 313.

<sup>42</sup> Exhibit 2, ESV electrical portable outlet device temperature rise tests and comparisons, 327.

AS/NZS 3105:2007 ('AS/NZS 3105') at 13.75A the power board would have to trip within two hours, therefore testing results were within the AS/NZS 3105 Standard.<sup>43</sup>

57. Mr Hunter raised concerns that the propensity for overloading is increasing with the increase in the use of electrical appliances, that individuals are interfering with the overload device to avoid an overload cut out and that the Standard does not endeavour to foresee issues such as how well a power board will meet the standard 5-10 years down the track when the power board has been constantly used, exposed to age, damage, component deterioration and degradation of materials.<sup>44</sup> Mr Fraser submitted that the AS/NZS Standards do try to foresee wear and tear and that contact pressures of new power boards are tested to ensure that they still remain at those contact pressures at the end of 1000 cycles.<sup>45</sup> However, this testing is only conducted on new power boards.

#### Cocooning power boards

58. MFB evidence from the Il Gambero fire suggests that the power board had been covered and encased in a number of items stored on the shelf it was located in, including various paper and plastic items.<sup>46</sup> Consequently, I have investigated the inadvertent misuse of cocooning.
59. Within the above-mentioned ESV report,<sup>47</sup> tests were also conducted in circumstances where a power board loaded up to 10A was covered (otherwise known as 'cocooned') with various items<sup>48</sup> and was measured for temperature while uncovered and covered. The report concluded that from all of the measuring points required by the AS/NZS 3105 Standard, the external temperatures of the power board were within the limits, however the temperature of the active and neutral terminal of the socket were exceeded.<sup>49</sup> Mr Sokoleski advised that the Standard is based on an uncovered power board and, although temperatures were exceeded, the test was not covered by the Standard as it was a cocooned power board. However, the effects of power board cocooning was tested as it was something that ESV wanted to investigate. Mr Sokoleski

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<sup>43</sup> Transcript, 25-6.

<sup>44</sup> Transcript, 33, 132.

<sup>45</sup> Transcript, 34.

<sup>46</sup> See Paragraph 7-8 of Inquest into the fire at Il Gambero restaurant: COR 2009 4103.

<sup>47</sup> Exhibit 2, ESV electrical portable outlet device temperature rise tests and comparisons.

<sup>48</sup> Cotton rags, a woollen blanket, a doona and a blanket and doona; See exhibit 2, ESV electrical portable outlet device temperature rise tests and comparisons, 315.

<sup>49</sup> Exhibit 2, ESV electrical portable outlet device temperature rise tests and comparisons, 315.

was not concerned that the temperature went above the Standard when the power board was cocooned, as the maximum temperature for plastic is 100 degrees Celsius and the maximum temperature that the cocooned power board reached was 78 degrees Celsius.<sup>50</sup>

60. The MFB did not dissent with the ESV tests undertaken by Mr Sokoleski and agreed that for fire research purposes it creates a 'very good benchmark' as something that can be measured against. Mr Hunter stated that the MFB's concern was that all testing was done in a 'laboratory type situation', which was appropriate for a bench mark test, but did not account for age, general possible damage to power boards, service life and possible contamination.<sup>51</sup> He raised concerns that the change of state occurs in the natural life of a power board which is why the MFB have concerns about cocooning in the actual environment the power board is operating in:

The materials, the density, the quantity and just the general fact that if it is not seen, if it's hidden, it's tended to be forgotten and due diligence about care and maintenance of that device seems to disappear.<sup>52</sup>

61. Mr East added that the products around the power board may change over time, occupants may have forgotten about it or neglected to look at it, there may be denigration of the plastics, the fire rating in the plastics might change and the denigration of the products that are actually cocooning it will change.<sup>53</sup>
62. Mr Murdoch agreed that cocooning of any electrical equipment would inhibit its operation, increase its temperature rise and if you were to leave the power supply in the same condition you could reasonably expect that their characteristics would also change. However he stated that in normal operation, power boards are less likely to get hot. Mr Hunter agreed that cocooning of electrical appliances in general could increase the potential and propensity for a fire.<sup>54</sup>

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<sup>50</sup> Transcript, 22.

<sup>51</sup> Transcript, 23.

<sup>52</sup> Transcript, 37.

<sup>53</sup> Transcript, 38.

<sup>54</sup> Transcript, 38-9.



### Piggy-backing of power boards

63. In her statement to Victoria Police, Ms De Voigt stated that both power boards involved in the Cranbourne fire may have been piggy-backed (also known as 'daisy chained') with an extension lead that was plugged into a second power board.<sup>55</sup> Although Ms De Voigt's evidence was not confirmed or corroborated by the fire investigators, as a matter of caution I have addressed the misuse of piggy-backing power boards.
64. The ESV submitted that piggy-backing of power boards has limited effect on the operation of the power boards, as shown in the test results outlined in the ESV report titled 'Voltage drop Vs Cable Length Testing and Comparison', revealing that piggy-backing power boards do not introduce an additional voltage drop when compared to a standard extension cord.<sup>56</sup> The tests were done using new power boards.
65. Mr Lee raised concerns that in power boards with worn contacts or boards that have been subjected to some form of misuse or abuse the conditions change, and fair wear and tear and usage over time is likely to expose the power board to problems.<sup>57</sup>

### Contamination

66. Mr East submitted that contaminants, such as dust and other debris, do get into power boards and start fires. Possibilities to reduce contamination were discussed at Inquest, such as positioning power boards vertically to reduce the amount of contaminants entering the outlets and building spring loaded shutters into the outlets. Mr Murdoch accepted that contamination in a power board may affect the quality of the power board, however stated that testing would need to be conducted to confirm this, and stated that he would feel uncomfortable recommending how to position a power board without tests providing confirmation that contamination affects the quality of power boards.<sup>58</sup>

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<sup>55</sup> Exhibit 4, Statement of Donna De Voigt, dated 14 January 2010, Inquest brief, 17; Exhibit 4, Report of Russell Lee, consulting forensic electrical and mechanical engineer, Inquest brief, 95.

<sup>56</sup> Exhibit 2, ESV report titled 'Voltage drop comparison of cord extension sets and EPODs', Expert Report brief, 333.

<sup>57</sup> Transcript 50-1.

<sup>58</sup> Transcript, 46-8.

## Australian/New Zealand Standards

67. It is an offence in Victoria and other Australian States and Territories to supply or offer to supply 'prescribed' classes of electrical equipment unless it has been approved by a regulatory authority. ESV lists power boards as prescribed electrical equipment. Manufacturers of power boards intended for sale in Victoria require a certificate of approval for the particular product design. As part of the application process, a test report is compiled from an accredited testing laboratory.
68. Within his expert report, Mr Lee explained that the mandatory Standard by which power boards are tested and approved is AS/NZ3105 – Approval and test specification – Electrical Portable Outlet Devices. At the time the Inquest, the latest issue of the Standard was 2007.<sup>59</sup> Further, AS/NZS 3100 – Approval and Test Specification – General Requirements is a Standard for a range of electrical devices, generally those intended for domestic and similar use, and power boards are one of the included electrical devices.<sup>60</sup>
69. At Inquest, the expert witnesses discussed the role of the Standards, the issue of foreseeability and whether or not issues of misuse could be addressed by the Standards.
70. Both the MFB and ESV agreed that the Standards are set for intended use and reasonably foreseeable misuse.<sup>61</sup> The ESV submitted that the Standard, amongst other things, sets out minimum manufacturing Standards for the anticipated use of an appliance, incorporates foreseeable risks of unintended use and sets parameters within which an appliance must fail safely.<sup>62</sup> Some of those Standards were tested by Mr Sokoleski<sup>63</sup> and discussed at Inquest.
71. At Inquest, Mr Fraser stated that the Standards Committee is made up of representatives from the industry, emergency services, regulators and manufacturers, and works on a consensus model administered through Standards Australia. He acknowledged that the committee

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<sup>59</sup> I note that the current Standard is AS/NZS 3105:2014, and have reviewed this standard for the benefit of identifying any changes made that may assist my finding.

<sup>60</sup> Exhibit 6, Independent expert report of Russell Lee, dated 31 March 2011, Report No. 2010 065-1R, Expert opinion brief, 75-7.

<sup>61</sup> Exhibit 1, Joint report, 5.

<sup>62</sup> Transcript 32-3, 59, 64, 130.

<sup>63</sup> Exhibit 2, ESV report by Goran Sokoleski, Expert Report brief, 313-333.

examining the Standard can only take feedback from the industry and has design limitations due to costs and feasibility.<sup>64</sup>

72. Mr Lee gave evidence that:

All standards committees are committees of compromise. I've been on standards committees and it's a consensus arrangement and I don't think it worked any other way. But it's a matter of how far you judge and it's interesting to compare standards here with standards overseas because different countries have different ideas and even here in this country we have different interpretations of a particular standard. We're all human.<sup>65</sup>

73. In relation to Mr Lee's evidence in relation to the 'committee of compromise', Mr Murdoch stated that it is not compromising on safety, it is a consensus of opinion and outcomes:

It's trying to find a solution to a problem [sic] may not be the solution that one person came up with. It would be a solution that everyone looks at and it will be a compromised solution because it's come from multiple jurisdictions, multiple units. You've got experts in relation to manufacturing and you've got experts in relation to equipment safety. You've got experts in relation to fire investigation. If you pool all those resources together you're going to come up with a far more robust solution compared to one person's recommendation.<sup>66</sup>

74. The MFB acknowledged ESV's position that while the ESV has representatives on various Standards Committees, it cannot unilaterally change the Standards,<sup>67</sup> and that while reform of some aspects of AS/NZS3105:2007 may be desirable, not all risks arising from the use of power boards can be addressed through the Standard.<sup>68</sup>

75. Mr Hunter submitted, and Mr Murdoch agreed, that the Standards are subject to a continuous review process to ensure that they meet contemporary needs, but the question of whether the Standards need to be changed if there is evidence that power boards are being misused is difficult to answer, because it requires the Standard to contemplate varying scenarios of possibilities, all of which require judgments to be made. In this regard, the application of a Standard or test/approvals specification is not a guarantee of safety or reliability, as the MFB

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<sup>64</sup> Transcript, 53.

<sup>65</sup> Transcript, 54.

<sup>66</sup> Transcript, 55-6.

<sup>67</sup> Transcript, 110.

<sup>68</sup> MFB written submissions, dated 18 October 2012.

would like it to be. Mr Murdoch added that the idea of the Standards is never to stifle innovation but to ensure that anything that is designed is both safe and acceptable, and acknowledged that the Standards have continued to evolve over the years in accordance with that principle.<sup>69</sup>

## **Comparison of power boards – Whether some are safer than others**

### ***Used and old power boards compared to new power boards***

76. In his expert report, Mr Lee acknowledged that age of a power board is a factor which ‘can and will increase the risk of fire,’ due to fair wear and tear and the general public continuing to use a power board until it fails. He acknowledged that while the incidence of power board fires is low, compared with the number of power boards in service, he continues to see incidents of gross abuse or very old devices.<sup>70</sup> At Inquest, he stated that all materials age, and that as they age the characteristics change including metals and plastics, and the response to stimulus of a particular material when it is new could be quite different to when it is old. Mr Lee gave examples of aging:

- a. of plastics – Flame retardant chemicals leaching out of the plastics over periods of 10-15 years;
- b. of contact materials due to use – every time a contact on a power board opens and closes it does so under the action of a thermal overload device and draws a small spark, which erodes the surface of the contact. The next time that device operates it cannot switch at the exact same spot and switches beside it. If the process is repeated the contact becomes eroded and loses its efficiency, which can cause overheating and welding of the contacts; and
- c. of contact materials due to misusing the thermal overload – when a person uses a power board which is an overloaded condition and repeatedly reset the overload they overstress the thermal overload contact set, which ages the contacts.<sup>71</sup>

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<sup>69</sup> Transcript, 56-7.

<sup>70</sup> Exhibit 6, Independent expert report of Russell Lee, dated 31 March 2011, Report No. 2010 065-1R, Expert opinion brief, 94.

<sup>71</sup> Transcript, 120-1.

77. At Inquest, Mr Lee stated:

Electrical deterioration is typically cumulative. It accumulates and as the things degrade the rate of degradation accelerates. It's not a straight line, it's a curve. So the worse the device becomes the quicker it deteriorates more and it adds. So I overload a power board and a busbar and I put just a little bit of char inside, no-one knows, there's no puff[sic] smoke, nothing. But the next time that I pull something out which is alive out of this thing there's a bit more char and then a bit more char and it just keeps growing. It doesn't go away again. Once it's happened it's there so each activity builds on the one before and that can be a factor which can accelerate the deterioration and shorten the life of the device.<sup>72</sup>

78. The MFB expressed similar sentiments in relation to concerns about old and used power boards, which have been addressed earlier in the finding.<sup>73</sup>

79. ESV submitted that the only data and testing of power boards was those reported on by Mr Sokoleski, and that although the tests were carried out in a 'laboratory setting' they should be given significant weight by the court.<sup>74</sup> The MFB stated that the old and overused power board is the one they look at, as opposed to the benchmark testing of new equipment, and although they support the testing conducted by ESV, they would prefer and are interested in the results of replication of the testing and circumstances on old power boards.<sup>75</sup>

80. Mr Fraser gave evidence that ESV have previously provided an education campaign that encourages people to replace power boards if they are 'cracked, bent, busted, discoloured...'<sup>76</sup> and stated that it was important to educate people to look for signs of deterioration or damage to power boards, including 'discolouration of the plastics...loose contacts, physical damage, frayed leads, cracked cases and any signs of heat damage or water ingress'.<sup>77</sup>

81. The MFB agreed with the need for a public education campaign, but submitted that a power board may become unsafe due to misuse and not show any visible signs of damage, such as if

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<sup>72</sup> Transcript, 142.

<sup>73</sup> See paragraphs 57, 60 and 61 of the finding.

<sup>74</sup> ESV written submissions, dated 10 October 2012, 2.

<sup>75</sup> Transcript, 79-80.

<sup>76</sup> Transcript, 134.

<sup>77</sup> Transcript, 122-3.

the thermal overload has failed or the internal contact points have deteriorated, and that those safety matters also need consideration.<sup>78</sup>

***Difference in quality between power boards ranging in cost price***

82. The MFB and ESV agreed that there are higher quality power boards and lower quality power boards, however they dissented in relation to whether cost dictates quality. Mr Murdoch stated that all power boards must meet the minimum safety standards prior to being sold. He agreed that some power boards have additional safety features including surge suppression, EMI suppression and switches for individual outlets, however stated that all power boards have an overload, the same insertion pressures and the same temperature requirements for the plastics. He acknowledged that in 2010 ESV bought a large number of power boards that were available on the market and tested them for critical safety components to ensure that those offered for sale complied with the Standard requirements.<sup>79</sup> An ESV table of statistics including audits of approved appliances in retail outlets was tendered, which revealed the number of approved appliances that were passed as compliant (meaning they have applied for approval) during audits from July 2011 to June 2012. ESV targeted retail outlets where there were concerns that the appliances may not be complying, and the audits were of all electrical appliances, not just power boards.<sup>80</sup>

83. Mr Hunter stated that there was a difference in the quality of power boards ranging in price, and that when reviewing the remains of power boards in fires he could pick the difference in the metal componentry in the inner power board.<sup>81</sup>

84. Mr Murdoch stated that ESV would need to undertake further testing to compare power boards sold at different prices, which would provide a definitive answer.<sup>82</sup>

***Features that can be added to power boards to make them safer***

85. All expert witnesses agreed that the following features could be added to power boards to make them safer:

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<sup>78</sup> MFB written submissions, dated 18 October 2012.

<sup>79</sup> Transcript, 66.

<sup>80</sup> Transcript, 134-6.

<sup>81</sup> Exhibit 3, ESV table including audits of approved appliances in retail outlets; Transcript, 66.

<sup>82</sup> Transcript, 67.

- a. Individual switches for each outlet;
- b. Improved warnings in relation to the use of power boards outdoors (larger, brighter and conspicuous) on power board packaging and the power board itself;
- c. Utilising a heavier grade of internal metal components to improve spring tension; and
- d. Spring loaded covers to prevent contamination of outlets.<sup>83</sup>

86. Mr Lee added his opinion, which has not been qualified qualitatively, that a return to older technology and materials would increase costs but would make power boards less likely to suffer from misuse:

Phosphor bronze is a robust springy material with a reliable re-clamping each time it's used but is expensive. They went away from that...using a lot of brass and copper. Copper is soft in many respects. It wears reasonably well. Now they're using brass because it's cheaper, but brass is more brittle and not as springy and it brings with it problems of maintaining contact pressure over a long period of time. So...when I say a return to older materials I would have thought a return to things like phosphor bronze and better coppers would be an improvement...those materials are still used in power outlets.<sup>84</sup>

87. All experts agreed that the addition of such features is a realistic option for manufacturers of power boards, but that the issue is primarily a matter of cost, and by making the cost of power boards approach the cost of power outlets, many of the features which are incorporated into power outlets should find their way into power boards.<sup>85</sup> Mr Fraser added:

Unfortunately we don't have any drivers to increase the cost of a product other than through the standards and if it was demonstrated it was necessary to increase the number of insertions say or the maximum load ratings, yes, that would drive the cost up and does it all suppliers so there's no competitive advantage there. But given that they're the same standards as wall sockets when do you get to a point where it's more economical to have an electrician come in and fit another wall socket, that's the difficulty...<sup>86</sup>

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<sup>83</sup> Exhibit 1, Joint report, 7.

<sup>84</sup> Transcript, 128.

<sup>85</sup> Exhibit 1, Joint report, 7.

<sup>86</sup> Transcript, 74.

## Submissions

88. In October 2012, ESV and the MFB provided written submissions to the Court, which I have considered for the purpose of this Finding.

### COMMENTS:

Pursuant to section 67(3) of the *Coroners Act 2008* (Vic), I make the following comments connected with the death and fires I have been investigating:

1. At my request, in 2010 the Coroners Prevention Unit ('CPU') reviewed the nature and frequency of structural fires attributed to electrical equipment, including power boards. The Australasian Fire Authorities Council reported 19,270 building fires in Australia and New Zealand in the 2006-2007 financial year. Electrical distribution equipment contributing to the cause of fire made up 7.4% of total building fires. MFB statistics indicate that, at the time of the inquest, over the past decade an average of 13 structural fires were caused by power boards. Those most vulnerable to fire injury include the elderly, intoxicated individuals, young children and individuals with a physical or cognitive disability.
2. Although the cause of the fire in this matter has not been definitively attributed to a power board, the *possibility* that it may have been the cause compelled me to investigate the safety of power boards, as it is a matter connected with the circumstances surrounding Tim's death and the Il Gambero fire and is a matter related to public health and safety.<sup>87</sup>
3. I accept the submission of ESV that the only data tendered as evidence is the report of the tests undertaken by Mr Sokoleski, which involved testing of new power boards. I also accept the submissions made by ESV in relation to those results. However, I am cognisant of the submissions by the MFB that age and continued wear and tear of a power board may exacerbate cumulative electrical degradation, thereby increasing the risk of a fire occurring.
4. Although the Australian/New Zealand Safety Standards stipulate that power boards are to be used for 'temporary use and not for permanent installation', the increasing number and use of electrical appliances may compel individuals to utilise power boards as permanent fixtures in many Australian homes, whether they be new homes with multiple power outlets or older homes with one power outlet per room. This is because no matter how many power outlets per room, power boards are used excessively because they are convenient. Many of

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<sup>87</sup> See *Coroners Act 2008* (Vic) s 72 (2).



them have long cords, which allow them to be used in many areas of a room where they are easily accessible so that appliances can be added or removed with ease. The long cords also have the aesthetic value of allowing the power board to be placed out of sight, yet still accessible when required. Power boards also have the convenience of having many outlets available for use, unlike two double power outlets sitting side by side, which only offer four outlets. For this reason recommending that more power outlets be installed in Australian homes does not seem practically astute, as there is a very real possibility that a large number of the Australian population will continue to use power boards no matter how many power outlets are in their homes. Public awareness appears to be the more suitable recommendation, as it is realistic to the actual use of power boards in Australia and will inform the public as to what constitutes power board misuse and the possible risks associated with power board misuse.

#### **RECOMMENDATIONS:**

I commend ESV, the MFB and Mr Lee for their contributions in relation to proposed recommendations to improve power board safety. I have considered all proposed recommendations for the purposes of this finding.

Pursuant to section 72(2) of the *Coroners Act 2008* (Vic), I make the following recommendations connected with the death and fires I have been investigating:

1. With the aim of minimising risks associated with power board misuse, I recommend that ESV and the MFB jointly fund a public awareness campaign to inform the public about the importance of power board safety. I recommend that the public awareness campaign:
  - a. Informs the public that power boards are to be used for temporary use and not permanent installation;
  - b. Informs the public about what may constitute power board misuse, including but not limited to:
    - i. Overloading power boards;
    - ii. Cocooning power boards;
    - iii. Piggy-backing power boards;
    - iv. Contamination of power boards;

- v. Using power boards designed for indoor use outdoors (and informing the public what symbol to look for on packaging to determine if the power board can be used outdoors);
  - vi. Do-it-yourself repair of faulty power boards;
  - vii. Using power boards manufactured before 1 January 1984 (and informing the public how to determine the manufacture date of a power board); and
  - viii. Using power boards that have been subjected to wear and tear for a number of years;
- c. Informs the public about the possible risks associated with power board misuse; and
  - d. Informs the public how to identify when a power board should be discarded (for example, signs of wear and tear such as discolouration of plastics and discarding power boards manufactured a certain number of years ago).
2. I accept that there has been no testing of used or old power boards by ESV, however I find that there is a *possibility* that age and continued wear and tear of a power board may exacerbate cumulative electrical degradation and/or pose safety issues associated with constant use, age, damage, component deterioration and general degradation of materials such as plastic, thereby increasing the risk of a fire occurring. Accordingly, with the aim of minimising risks associated with power board misuse I recommend that ESV in consultation and collaboration with the MFB undertake testing of a range of used and old power boards (the range mutually agreed upon by ESV and the MFB) to determine if cocooning, contamination, general wear and tear (such as continuous plugging and unplugging of appliances into the power board while it is on), overloading, piggy-backing and age of a power board does cause electrical degradation or safety issues.
3. With the aim of minimising risks associated with power board misuse, I recommend that the results of the testing referred to in recommendation two should be compared against the most recent AS/NZS 3105 Standard and if there is evidence that there is electrical degradation or safety issues that may increase the risk of a fire occurring, I recommend that Standards Australia be notified and review AS/NZS 3105 in light of the new information provided to them by ESV.

## FINDINGS

1. I find that the identity of the deceased is Timothy Joseph De Voigt.
2. I accept and adopt the medical cause of death as ascribed by Dr Ranson and find that Timothy Joseph De Voigt died from the effects of fire in circumstances where a power board, or an appliance connected to a power board located in Tim's bedroom caused a fire. Tragically, Tim was overcome by the effects of the fire and was unable to leave his family home.
3. I find that there is no evidence to suggest the involvement of any other person in this death.
4. I find that the origin of the fire was within the multi-outlet power board in Tim's bedroom.
5. I find that the cause of the fire was either the power board or an appliance that was connected to the power board at the time.

Pursuant to section 73(1) of the *Coroners Act 2008* (Vic), I order that this Finding be published on the Internet.

I direct that a copy of this Finding be provided to the following individuals and agencies:

Ms Donna De Voigt;

Mr Martin De Voigt;

Mr John Murphy on behalf of Energy Safe Victoria;

Ms Catherine Dunlop on behalf of the Metropolitan Fire Brigade;

Mr Ian Hunter, Manager of the MFB Fire Investigation Analysis Unit;

Mr Roderick East, Station Officer at the MFB Fire Investigation Analysis Unit;

Mr Russell Lee, Consulting Forensic Electrical and Mechanical Engineer and Independent Expert;


Mr Adam Murdoch, Manager of Equipment Safety and Efficiency at ESV;

Mr Neil Fraser, Electrical Installations, Licensing and Equipment Safety Executive Manager at ESV;

Mr Goran Sokoleski, Compliance Officer at ESV; and

Detective Senior Constable Paul Stow, Coronial Investigator.

Signature:



AUDREY JAMIESON

CORONER

Date: 23 November 2015

