

IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: 1416 / 2009

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)

Section 67 of the Coroners Act 2008

Inquest into the Death of: KEITH PHILLIP DICKMAN

Delivered On:	29 February 2012
Delivered At:	Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne Victoria 3000
Hearing Dates:	3, 5, 14 October 2011 and 2, 4 November 2011
Findings of:	K. M. W. PARKINSON, CORONER
Representation:	Mr S Russell of Counsel instructed by Mr R Jackson, Solicitor on behalf of Allstaff Pty Ltd Mr R Taylor of Counsel instructed by Ms J Patterson, Solicitor on behalf of Australand Industrial Constructions Pty Ltd Mr S Stafford of Counsel instructed by Ms J Burns , WorkSafe on behalf of WorkSafe Victoria
Police Coronial Support Unit	Leading Senior Constable Tania Cristiano

I, K. M. W. PARKINSON, Coroner having investigated the death of KEITH DICKMAN

AND having held an inquest in relation to this death on 3, 5, 14 October 2011 and 2 and 4 November 2011 at Melbourne

find that the identity of the deceased was KEITH PHILLIP DICKMAN

born on 7 May 1952

and the death occurred on 5 March 2009

at The Alfred Hospital, 55 Commercial Road, Melbourne, Victoria 3004

from:

1a. HEAD INJURIES SUSTAINED IN A FALL FROM A HEIGHT

in the following circumstances:

1. An inquest was conducted into the death of Mr Dickman on 3, 5, 14 October 2011 and 2 and 4 November 2011. Written submissions were received from the interested parties on 1 December 2011.
2. The brief material in this case consists of documents which constituted an investigation by WorkSafe Victoria ('WorkSafe') an agency of the Victorian Workcover Authority and additional statements which were obtained by the Coroner during the course of the investigation. These materials included site documents produced by Australand Industrial Constructions Pty Ltd, ('Australand') the principal contractor and by Allstaff Air Conditioning Pty Ltd, ('Allstaff') the sub-contractor, who employed Mr Dickman. The material included statements from managers and employees on site, some of which were obtained some time after the events.
3. A large amount of additional material was produced after further investigation by the Coroner in relation to the circumstances of the death. That material included documents relating to the work process and planning which had not been originally produced.

4. This is not a criminal or prosecutorial investigation. The purpose of a coronial inquiry is to establish the cause of death and the circumstances in which it occurred, including factors which may have caused or contributed to the death and to identify possible measures which may prevent future death or injury.

5. The following witnesses gave evidence in the proceedings:
 - Mr Steven James Guest, Leading Hand and Plumber, Allstaff Airconditioning Pty Ltd;
 - Mr Perry Mario Pobega, Plumber, Allstaff Airconditioning Pty Ltd;
 - Mr David Ward, Site Foreman, Allstaff Airconditioning Pty Ltd;
 - Mr David Anthony Chester, Plumber, Allstaff Airconditioning Pty Ltd;
 - Mr Stephen Rocco, Plumber and OH&S Officer, Communications Electrical Plumbing Union (CEPU);
 - Mr Colin Taylor, National OHSE Manager, Corporate, BSA Limited;
 - Mr Trent Holbrook, Victorian State Construction Manager, Australand Industrial Constructions Pty Limited;
 - Mr David Waterfield, Southern Regional HSE Manager Australand Property Group's Commercial and Industrial Division;
 - Mr Paul Darby, Site Manager, Australand Industrial Constructions Pty Limited;
 - Mr Stephen Laurence Kelly, Senior Inspector, VWA (WorkSafe) Victoria.

6. Whilst I do not expressly refer to the detail of all of the evidence, I have had regard to all of the material in reaching my finding in this case.

Background and Medical Reports

7. Mr Keith Dickman was born on 7 May 1952 and was 56 years old at the time of his death. Mr Dickman is survived by his wife and children. He was a qualified plumber and had worked in the plumbing industry for over 30 years. He was employed by Allstaff Airconditioning Pty Ltd at the time of his death.

8. On Thursday 5 March 2009 at approximately 10.15 am, Mr Dickman fell from a ladder at the site where he had been working at 28 Freshwater Place in Southbank. On this day he was installing air conditioning ducting.
9. Mr Dickman was intubated at the scene and transferred to the Alfred Hospital at Melbourne. He was transferred for emergency surgery. Investigations revealed a subarachnoid haemorrhage, a basal skull fracture and bifrontal contusions. During surgery his brain injury was deemed to be non-survivable and he was transferred to the Intensive Care Unit where he was palliated. Mr Dickman died at 4.00pm on 5 March 2009.
10. An autopsy was undertaken by Dr Melissa Baker, Forensic Pathologist who reported:

"The cause of death in this fifty six year old man is a severe traumatic head injury sustained in a fall from a height. Post mortem examination revealed extensive subgaleal haemorrhage and a left occipital skull fracture. There were contusions of the inferior aspects of both frontal and temporal lobes and also a contusion of the inferior aspect of the cerebellum. There was also evidence of extensive secondary cerebral oedema with herniation of the brain through the frontal craniotomy site and evidence of mass effect with features associated with terminal coning of the brain stem and Duret haemorrhages in the brain stem. Hypoxic changes were also seen in Somers sector of the hippocampus. The findings are consistent with an impact to the posterior aspect of the head which is consistent with the information provided in the Victoria Police Report of Death Form No. 83.

There was no evidence of any significant natural disease that may have caused or contributed to death, or obviously contributed to the deceased falling from the ladder.

Toxicological analysis of an antemortem serum sample was negative for alcohol and other common drugs or poisons".

Circumstances

11. Mr Dickman was an experienced tradesperson who was regarded as careful and safety conscious. On 5 March 2009, he was engaged in the installation of air conditioning ducting at Level 8 of a development site known as 28 Freshwater Place, Southbank.
12. The development had proceeded from construction stage to fit out stage. Ceiling grids had already been installed on Level 8.
13. Floor coverings had already been installed and the installation of the air conditioning spiro ducting was being undertaken by reference to the office layout and ducting requirements resulting from that layout. The installation was therefore being undertaken by working around already installed ceiling grids and partially installed office partitioning and glazing. Protective covering had been laid over the top of the floor coverings.
14. As far as can be ascertained from the available evidence, Mr Dickman was relocated on the morning of the incident, from pipe work duties, to assist in the installation of air conditioning spiral ducting known as 'Spiro' ducting on Level 8 of the site. The evidence is that Mr Dickman did not usually do Spiro ducting work.¹
15. Mr Dickman was working that morning with another plumber, Mr David Chester. Their task was the installation and securing of the Spiro ducting into position into the ceiling cavity. The Spiro ducting was tubular ducting of approximately 2.4 metres in length, 250mm in diameter and weighing approximately 5 to 10 kilograms. There is some debate about the exact weight of the product, however I am satisfied that the weight of the item of itself is not a significant matter, rather the size, flex and awkwardness of the ducting in fixing is of more significance.
16. Mr Chester described the work process:

"The duct work was taken up on the ladders and then rested on the ceiling grid which was already in place in the ceiling. A piece of hoop iron was then used to attach the duct work. The hoop iron was attached to the concrete ceiling via a Hilti nail gun through the iron. Keith

¹ T90.10

would fix his side in and then hand me the gun and I would do the same. The other way of fixing this duct work to the ceiling is by drilling 2 x 12mm holes into the concrete and putting what I term 'knock ins' into the hole. 10mm all thread is then placed into the holes. The spiral duct work is drilled through and then raised up onto the all thread. A nut is placed on the all thread to hold the spiral duct work in place. Using the gun is definitely quicker. But the process is basically the same."

17. A 'Hilti' gun is an explosive power tool, which discharges and drives in nails by an explosive charge. The evidence of the witnesses varies as to whether or not the tool is a two handed or one handed operation. Mr Pobega and Mr Rocco gave evidence that it is safely undertaken as a two handed operation. That would appear to be consistent with the apparent design of the item, which includes a handle mechanism in addition to, and in front of, the trigger handle of the gun.²

18. Mr Chester described that they had fixed one piece of ductwork to the ceiling and were commencing work on the second duct. At approximately 10.20am, Mr Dickman had just fired one nail into his piece of hoop iron which was to be used to support the duct. Mr Chester stated that he watched Mr Dickman fire the nail and 'it went in fine'. He stated:

"I watched Keith use his left hand to then hold up the ductwork while he was on his ladder. He was facing me and I was facing him. His hips were against the ladder and he was standing either on the fourth or fifth step from the bottom of the ladder. I can't remember exactly. His back was to the window. The nail gun was in his right hand helping to raise the hoop iron to be shot into the ceiling. Keith seemed to be a little bit leaning backwards at the point of raising the hoop iron. The next thing I know Keith fell backwards. As Keith was falling he tried to grab the ceiling grid which in turn flicked him in the face. Keith appeared to twist as he fell. He fell directly backwards and took the impact fully on his back. It was a massive impact. I've never seen anything like it. He didn't have a chance to fall on his shoulder or arm or anything. The ladder landed to the right of Keith on some duct work behind him that was lying on the ground. I got straight off the ladder and screamed out for first aid. My other mate working on the other side came running over to. A few people who had first aid attended as well. The ambulance arrived shortly after."

² Exhibit 3 photo 12

19. Another Allstaff employee, Mr Perry Pobega was working in close proximity to Mr Dickman. His evidence is that shortly before Mr Dickman fell he heard him shout "fire" and he braced himself for the sound of the gun firing, but it did not eventuate. He stated that that he believed there may have been a misfire of the gun, something that occurs from time to time. Mr Pobega's evidence was that he raised his head to observe when he heard the call of "fire" as this was his usual practice for personal safety reasons as the device is an explosive device firing nails in proximity to where he was working.
20. Mr Chester makes no mention of a misfire or that Mr Dickman was about to fire the Hilti gun, although he did observe him to have the gun in his hand just before he saw him fall.
21. Mr Pobega observed that the ladder shifted and that shortly after he observed the ladder 'walk', he then saw him fall to the ground. The movement of the ladder was described as 'lurching'. His evidence was that the ladder shifted and then Mr Dickman fell, that he did not observe Mr Dickman engage in any movement which would have initially caused the ladder to shift. Mr Pobega's evidence was that he watched Mr Dickman attempt unsuccessfully to grasp the ladder as he fell to the ground.

Personal Protective Equipment

22. There was no evidence in the proceedings, or in the WorkSafe materials or in any of the photographs at the scene, of any personal protective equipment being utilised by Mr Dickman. The evidence of the site foreman, Mr David Ward, was that personal protective equipment was available if people wanted to get it and that Mr Dickman wore his reading glasses as eye protection. He was unable to say whether Mr Dickman had on a safety helmet.
23. I am satisfied that Mr Dickman did not have protective glasses on at the time of the incident and was not wearing a safety helmet. Mr Dickman was hit in the face and sustained an injury to his eye as he became unbalanced and began to fall. The absence of safety glasses and the resulting injury, may have impeded his ability to position himself protectively as he fell. The

absence of a safety helmet may have contributed to the extent of his head injury having regard to the distance of fall and the concrete surface with which he came into contact.

The Power Actuated Tool or Hilti Gun

24. A power actuated tool is a nail gun which relies upon a controlled explosion. It discharges nails at force and is used to join materials such as Builders Strap and fix into hard surfaces such as concrete. A Hilti or Ramset gun is a proprietary name for the tool. Information was sought by the Coroner as to the actual power tool being used by Mr Dickman on the day, as the gun was not seized. I am satisfied that it was likely the tool produced in photograph 12.³

25. There is a suggestion, although no evidence to the effect, that the tool had been left in the ceiling cavity on the day and may have been found in the cavity later, however the ceiling cavity was not inspected on the day of the incident. The suggestion appears to be inconsistent with the evidence of Mr Chester and Mr Pobega, that the tool was in Mr Dickman's hand just before he fell. If the tool was resting in the cavity that would suggest that Mr Dickman did not have it in his hand when he fell. It is unlikely that he stopped to place the tool down before he fell, although it is possible that it came to rest of its own motion inside the ceiling cavity. I am however satisfied that Mr Dickman had the tool in his hand immediately prior to falling.

26. Mr Rocco's evidence is that the tool required two hands for use. His evidence was that the second handle on the tool is used to stabilise and assist with locating the nail into the required position in the builder's strap. The other handle contains the trigger to operate. He described its use as follows:

"For the firing mechanism to engage the spring is required to be fully compressed. This is done by applying pressure to the barrel to compress the spring. This requires a certain amount of force. When the trigger is pulled the force already applied to the spring as well as the force of the explosive charge causes a release of energy to be transferred through the operators arm and body. This is commonly referred to as recoil. The recoil can vary

³ Exhibit 3 photograph 12

*depending upon the strength of the charge used. In this application, that is driving the nail into concrete requires a high charge.*⁴

The A Frame Ladder Being Used By Mr Dickman

27. The ladder being utilised by Mr Dickman was a Kennett Brand 'A' Frame Ladder. The ladder was a commercial grade ladder. The ladder was measured as 2400mm in height closed and 2200mm open. The step ladder had a sticker fixed to it identifying that it complied with AS/NZS 1892. Mr Dickman had been using this ladder for some time and regarded it as for his exclusive use.
28. WorkSafe Senior Inspector, Mr Stephen Kelly, noted in his statement that the silver Kennett aluminium ladder, which had been identified as that used by Mr Dickman, had damage to a foot and had some non standard replacement bolts on the folding braces, which appeared to be partially damaged causing it to be loose. His inquiries of witnesses ascertained that the foot of the ladder was undamaged prior to the incident. I accept that. He also noted that the ladder being used by Mr Chester was a yellow fibreglass Gorilla Brand ladder and that it was heavier than the Kennett model and more solid in its construction.
29. The ladder was not initially seized by WorkSafe but secured at the inspector's direction at the builder's premises. There is evident deterioration in joints and replacement of bolts with non-specification fixings in photographs taken of the ladder at the scene on the day of the incident and within a day of the incident occurring.⁵
30. Mr Rocco described the deficiencies in the ladder in his statement and he expanded upon this matter in his oral evidence. His evidence was that the ladder was deficient in a number of respects. He stated that the second rung of the ladder had rivets missing on each side, there being only one rivet on each side which was evidenced by photograph 25. He stated that photograph 26 identified that the rivets had popped out and that there were two holes evident

⁴ Exhibit 7 page 2

⁵ Exhibit 3, Photographs 25 to 30

where the rivets should have been. In photograph 27 he identified that the mushroom head of the rivet was missing, but the base or body of the rivet was still embedded in the style.

31. His evidence was that as a result there was only half the rivet in the ladder. He described that once the head of the rivet drops off the body of the rivet, the predetermined tension is lost. This means that the rivet no longer has any tension on the material it is fixing. Once you lose either the back or the front of the rivet it no longer serves the purpose it was intended. His evidence was that the purpose of the rivet is not only to secure the rung, but also to stop warping of the styles and the rungs of the ladder. He stated:⁶

"In relation to the rivets, obviously you say the purpose is to secure the rung?---That's one of the purposes. And the other purpose?-- Okay, the other purpose is to stop this warping of the styles and the rungs, okay. So you've got the two rivets on the front. Other photos will show you one rivet on the back, okay. As we say, they give you two rivets for a reason. They don't give on as a spare. If it needs two they put two in it. Whoever designed it, you only need one in the back, that's all they give you. The two rivets stop this rotating, okay.

THE CORONER: So you're moving your hands side to side. Are you speaking of the rails of the ladder ?- When I move my hands side to side, I'm not saying you're going to get that amount of movements, I'm exaggerating the - but if you've only got one rivet there in the front, one rivet in the back that allows for a pivot situation but when you put your two rivets in it can no longer pivot. So that's the flexibility going - later on if I get to touch the ladder I can sort of show you what I'm talking about. But the two rivets in the front stop this movement of the styles.

Mr Rocco, the rivets aren't just there to secure the rail?---They're not just there to secure, the downward pressure when you stand on the rungs, okay. It's a purpose for the strength downwards but it also serves as a purpose to stop the movement that way, right, because if you've only got one rivet here and one rivet there it's like an axle, isn't it? You put in two, it can no longer move, right."

32. Mr Rocco's evidence was that as a result of the missing rivets the remaining rivets did not perform their function and allowed for instability by way of movement of the ladder rails.

⁶ T 177 to 183

33. Mr Rocco's evidence was that he was confident having regard to the photographs and the ladder as shown in court and observed by him on the day of the incident, that the rivet head has been off that ladder for a period of time that predated the incident. He referred to oxidisation and dirt around the hole which he said would not have been apparent if the rivet had fallen off that day.
34. An engineering report dated 10 October 2011, provided by WorkSafe Engineer, Mr Rajadurai, suggested that it was not possible to establish whether the ladder was in the same condition on his inspection (in excess of two years after the event) as it had been on the day of the incident. This was also the submission of counsel for Allstaff.
35. I am satisfied, having regard to the photographs taken of the ladder at the scene, the statements of Mr Kelly and Mr Rocco and the additional evidence given by Mr Rocco of his observations of the ladder the day after the incident, that the deficiencies existed at the time of Mr Dickman commencing work that day and at the time the incident occurred. There is no evidence as to who may have fitted the non standard replacement parts to the ladder or how long prior to the incident they were fitted or the rivets missing.
36. Mr Rajadurai reported that he did not consider that the different bolt, nut and washer combinations, assuming that they were sufficiently tightened, would have decreased the stability of the ladder. This opinion was subject to the assumption that they were sufficiently tightened. The effect of Mr Rocco's evidence is that their deficiency in being non-standard bolts, nuts and washers was that they could not be sufficiently tightened or secured.
37. To the extent that there is disagreement between Mr Rocco's evidence and the statement of Mr Rajadurai, as to the stability of the ladder, I prefer the evidence of Mr Rocco. He is an experienced tradesperson with extensive industry experience in the construction industry and in occupational health and safety matters. He provided a detailed and comprehensive explanation in both his written statement and in his oral evidence, as to the factors, which

were likely to contribute to the instability of the ladder as a result of the non standard and missing fittings, and I accept that evidence.

38. It was further submitted that I disregard the evidence of Mr Rocco on the basis that he was not present at the incident as it occurred and because he is not an 'expert'. I accept Mr Rocco's evidence as being a cogent and sensible assessment of the scene at the time he attended. He was of assistance in the proceedings, by providing information as to the way in which the installation work is performed in the industry and on the site in question and the safety issues as he saw them with the work being performed in the manner it was.
39. He comes to the court with extensive experience in the building and construction industry as a qualified tradesman and with broad experience in occupational health and safety matters. He is a member of a number of national and state consultative occupational health and industry reference groups. There are degrees of expertise and in reviewing matters of occupational health and safety it would be imprudent to ignore the evidence of those with industry and practical experience.
40. The evidence of Mr Chester is that Mr Dickman did not undertake any violent or abrupt movement which of itself may have caused a sound ladder to shift, nor did he suggest that any other action of Mr Dickman caused him to lose balance. The evidence is that Mr Dickman did not engage in the practice of 'walking' his ladder and had shortly before the incident, been observed to get down off the ladder to shift its position in relation to the work he was undertaking.
41. In so far as it is suggested that Mr Dickman was not using the ladder properly⁷, I do not accept that there is any evidence to this effect. The evidence of Mr Pobega was that the ladder shifted and then Mr Dickman fell. The effect of this evidence entitles a conclusion that the fall was as a consequence of the ladder shifting underneath Mr Dickman. I am satisfied that the shifting

⁷ T410.1 Mr Ward: "Well, I mean you can never guarantee- I mean as long as you are performing the task and doing it properly on the ladder, the ladder should never move".

was likely from instability in the ladder arising as a result of the non standard and missing fixtures.

42. I am satisfied that the ladder which was being utilised by Mr Dickman was deficient in that it utilised non standard fittings and had not been properly inspected. I find that these defects are likely to have caused instability in the ladder, resulting in the ladder becoming unbalanced in the course of the work being performed and causing Mr Dickman to fall.
43. I am also satisfied that there was no formal inspection process in relation to the integrity of ladders which were being used and Mr Dickman's in particular, which had not been formally inspected since issue in 2007.

Conclusion as to the work being performed and the manner in which it was being undertaken

44. Mr Dickman was a skilled and qualified tradesman who was regarded as safety conscious. The work which he was performing involved the exercise of a number of steps, including balancing on an 'A' frame ladder at height, holding an explosive power tool in his hand, using his other hand to line up and position the ducting and fixing holes in the Builders Strap to fix the air conditioning ducts. This was a two person job, with another person affixing the other end of the ducting some metres away in the ceiling.
45. The evidence establishes that Mr Dickman had no hand free to stabilise himself on the ladder. There were no harnesses or restraints which may have prevented him from falling in the event that he became destabilised. Nor was there anyone present to ensure that the ladder itself was stable and did not shift and cause Mr Dickman to lose his balance and fall.
46. The work involves dexterity and balance. Performing the task of fixing of the Builders Strap and its alignment to the holes in the concrete grids requires the exercise of fine motor skills and significant balancing skills when performed from a ladder, with two hands held overhead. The power tool recoil, which is ameliorated when the work is being performed on a platform, would not be reduced when operated from a ladder.

47. To assist the Coroner to understand the two different methods of installing the ducting, Allthread and Builders Strap, a DVD was produced by Allstaff. It was expressly described by counsel for the company as not a re-enactment and produced and used only to show me the installation method, that is the steps in the process and the two methods of installing the ducting. Whilst counsel stated that it was produced only for the purpose of showing the method of work, it is difficult to ignore the obvious features of the manner in which the work is performed in comparison with the manner in which the work was being undertaken by Mr Dickman.
48. It is of note that in the DVD, the work was not performed on a ladder, but on an elevated work platform, large enough for both men to work off. The men had a full compliment of personal protective equipment. The men were able to steady themselves, the platform was stable and provided a resting place for tools and equipment. The recoil from the power tool was apparent, but manageable from the stable work platform. It is notable that the work was not attempted to be demonstrated from the top of an 'A' frame ladder.
49. I am satisfied that it is likely that the combination of Mr Dickman adjusting his positioning, the slightly backwards leaning position he adopted whilst holding the Hilti gun, when attempting to line up and fix the Builders Strap, combined with the defective support structure of the ladder, resulted in the ladder 'walking' or 'shifting' slightly. As a consequence, Mr Dickman lost his balance and fell, with his head hitting the ground. I accept that the explosive charge had not activated immediately prior to the fall, such that explosive recoil would not have caused Mr Dickman to become unbalanced and fall.
50. It is unclear on the evidence whether an initial misfire, where no explosion resulted, contributed to his loss of balance, but I am satisfied that the task of holding and positioning the explosive power tool or Hilti gun, contributed to his instability. Despite an attempt to stop himself from falling, in which he sustained a laceration to his eye, Mr Dickman was unable to protect himself and he fell without being able to instigate any measure to protect his head.

The particular work method or installation process which was utilised

51. There is a suggestion in the evidence that the installation process utilised on the day of the incident (Builder's Strap), had been adopted that day in order to complete the work more quickly, as Mr Chester said, it was a quicker process. The evidence of Mr Rocco was that his inspection revealed that Allthread had been used in the majority of the ceiling work on the floor and that there was a small amount of Builders Strap installation only.
52. Mr Ward's evidence was that the employees were experienced and could decide what work method they chose to adopt from time to time and that this might change depending on their preference. His evidence was that this was not specified in the Safe Work Method Statement (SWMS) and that it depended upon the individual employee's preference whether Builders Strap or Allthread was utilised and that they "depending upon the guy's preference. They can use Allthread or builders strap. just pick up and use whatever they want at the time".⁸
53. His evidence was that the materials would be available on site for either and that the employee could select the materials he wanted to use. As I have observed, this is peculiar in the context of a large construction and fit out site, subject to detailed specifications and planning.
54. It appears that the ducting was initially being installed with the Allthread method and that at some time during the process the method of installation had altered to Builders Strap. Despite my inquiry of both the principal and the contractor during the course of the proceeding, I was unable to ascertain when the method of installation had altered. No one was able to inform me as to the timing of any decision to utilise one or the other type of installation method. This is relevant to the content of the SWMS and the information contained therein as to the type of tools and equipment being utilised to undertake the tasks and the type of safety precautions which might be drawn to an employees attention in undertaking the task.

⁸ T382 – 386.10

55. The evidence about the planned work processes is surprising in the context of the evidence, that this was a carefully planned major building construction process with product specifications for all types of work being performed on the site.
56. This is relevant to my considerations in view of Mr Dickman having commenced working on installation of ducting that morning and having regard to the evidence of Mr Pobega that Mr Dickman did not usually do the duct installation work and usually did pipe work, lack of practice in the work process may have contributed to the incident.

The use of 'A' frame ladders in installation work instead of platform ladders, mobile platforms or EWP's/scissor lifts

57. Mr Ward explained in his statement dated 8 July 2011:⁹

"To assist with installation work we use duct lifters, scissor lifts, platform ladders, scaffold ladders or standard ladders.... There are various factors that are considered when deciding whether to use a scissor lift or a ladder to work at height. If we can use a scissor lift safely then we will use it. In the fit out stages it is more difficult to use a scissor lift because of its size. The barriers around the scissor lift will not generally fit between the ceiling grids. Another issue is that the internal walls and doorframes have been fitted and a scissor lift is often too big to fit through or around these. Having several scissor lifts on site also creates a hazard as they are driven around in the same space as where people are walking or standing to work. It really depends upon the site conditions whether a scissor lift should be used instead of a ladder. We use whatever provides the safest option. "

58. He did not address alternatives to an 'A' frame ladder in his statement. However in evidence he said that it was not practicable to use platform ladders or scaffold ladders or elevated work platforms, such as scissor lifts, in fit out situations because there is insufficient space due to the fit out and height is a problem with platform ladders as they are often too high for the ceiling installation.

⁹ Exhibit 5 paragraph 16

59. He also gave evidence that it was up to the employees to request if they wished for the ceiling grids to be removed and that if they did request he would take it up with the project manager. The evidence of Mr Pobega was that this was requested in the context of installation of a larger ducting unit and that the request was refused by Mr Ward. Whilst the evidence of Mr Ward was:¹⁰ *“if the employees had wanted the ceiling framing to be removed that would have been done by Australand”*, the evidence was that when such a request was made it was not conveyed to or pursued with the principal Australand.
60. Mr Ward’s evidence was also that it was left to the employees to assess whether they could safely use ‘A’ frame ladders or would utilise Platform Ladders. This was also the evidence of Mr Guest.
61. It is surprising that such a decision as to utilisation of such a fundamental piece of equipment would be left entirely to employees to assess, particularly in the context of such extensive documentation being required of the subcontractor.
62. The Australand Ladder Safety standards dated 1 March 2009¹¹, stated that a step ladder shall only be used if there is no other practical way of accessing the work area and required that the ladders be checked to ensure that it was intact with no parts missing and that all bolts and rivets were present and secure. The Allstaff Occupational Health and Safety Handbook¹² reportedly issued to Mr Dickman when he commenced employment directs that *“Ladders are not work platforms avoid working off them”*. I am satisfied that this reference relates to all types of ladders including ‘A’ frame ladders.
63. It is clear from the statements and evidence of Mr Chester and Mr Pobega, that they had used ladders because that was what everyone was doing, that there was no other option apparently available to them and that they did not fully appreciate that it involved any risk to their safety.

¹⁰ T104.27

¹¹ WorkSafe Materials page 332

¹² WorkSafe Materials Page 121

64. The evidence of Mr Chester and Mr Pobega, is that it was necessary to perform the work in this manner, that is from a ladder, because the initial fit out had already been undertaken in the area and that carpet and framing for partitioning had already been installed. The ceiling framing made it difficult to use an elevated work platform and mobile scaffolding apparently could not be utilised because of the partitioning which had already been installed. Another impediment to using an elevated work platform was possible damage to carpet which had already been installed.
65. Mr Chester stated¹³ that ductwork installation is much safer and simpler when the builder either removes the ceiling grid beforehand or does not install it until the ducting installation is finished. He reported that some builders do this, whilst others refuse, and that this refusal caused them to work with greater risk of injury. He stated:
- "It all has to do with the timing on the particular job and we are generally pushed for time. If the ceiling grids were not in place we could work from platform ladders or scissor lifts most of the time and this is a much safer option than working from A Frame ladders. I believe this system of work has to change within the industry so that individual builders are forced to be consistent with all ductwork installers. This would result in all installers working in a consistently safe manner".*
66. Mr Pobega said it would be much safer to install all the ducting including the branches and registers prior to the final fit out of the buildings as the final fit out includes the partitions, glazing, ceiling grids, roof tiles and carpet. He said: *"That way we could use the safer work platforms for the entire job."*
67. Mr Pobega described that once the ceiling grids have been installed, scissor lifts and platform ladders cannot be utilised because of their size and because they may also damage carpet and the walls inside when being moved around.

¹³ Exhibit 12 and 13 pages 2 and 3

68. Another employee, Leading Hand Mr Stephen Guest, acknowledged that the platform ladders are more stable, however stated they were heavier to move around and that he didn't like working from them because *"you get a false sense of security and because you can move around on the platform you can accidentally step off the back and fall off."*
69. His evidence was that because they (platform ladders) were awkward he preferred working from an 'A' frame ladder.¹⁴ He stated however that the workplaces that did not have the ceiling grid installed prior to duct work installation are *"no doubt much easier and safer to work on because we then have the choice to use more stable working platforms rather than just 'A' frame step ladders."*
70. No evidence has been given as to why it would not be feasible or practicable, to take preventative safety measures including installation of ducting at an earlier stage in the fit out, or by the removal of ceiling grids to enable the use of more stable access arrangements.
71. In addition, Mr Rocco's evidence¹⁵ was that there are a number of alternatives available to utilising 'A' frame ladders to undertake the task required of Mr Dickman. These alternatives included, task designed mobile scaffolding, platform ladders, portable and adjustable mobile scaffolding and the use of pole tools. He also gave evidence that undertaking the task with Builders Strap was now in limited use and that Allthread was generally used as it did not require the use of an explosive power tool designed for two-handed operation. He said that undertaking any two handed operation from a ladder was in his words *"a no go"* however hammering a pin (as undertaken with Allthread) was of lower risk than utilising an explosive power tool overhead on a ladder.
72. Mr Ward's evidence was that an 'A' frame ladder, is not required to be footed because it is stable within itself. When asked whether he thought given the incident with Mr Dickman, that the assumption that an 'A' frame ladder was stable, may not be correct, he replied that he did not, however if a worker performing the task felt unbalanced or felt he needed supporting, it

¹⁴ Exhibit 2 page 2.

¹⁵ Exhibit 7 and T201-211

was open to them to have the ladder footed¹⁶. His evidence was that this currently occurs on sites.¹⁷

SWMS and JSA – Inadequacy

73. At the commencement of the project, Australand required all sub contractors to submit safety documentation which is contained in the Subcontractors HSE file, known as the “Subby Pack”. The Subby Pack was produced to the Coroner during the course of the proceedings and was the subject of examination in the course of the evidence. It contains documentation as to Australand’s requirements in relation to safety management on the site. It includes induction material together with documentation which requires the subcontractor to set out their site safety analysis and plans. This documentation is utilised by the principal to assess safety arrangements and its completion is a prerequisite to the subcontractor commencing work on site.
74. The Australand induction material *OHSE 004 – Hazard Identification, Risk Assessment and Control* specifies that the sub-contractor (Allstaff) was required to:
- “Breakdown specific work activities into job steps to assist in identifying all potential hazards. These work activities are detailed in a Safe Work Method Statement (‘SWMS’). The SWMS is a list of job steps and other work related practices. For each of the work activities and associated job steps identified in the SWMS, Allstaff Airconditioning (Vic) Pty Ltd has identified potential hazards and their risks”.*
75. The purpose of utilising the system of Job Safety Analysis (JSA) and the Safe Work Method Statement (SWMS) is to examine the detail of the work, the risks of the work and the measures, which may be available to ameliorate the risks associated with the work.
76. Mr Chester and Mr Pobega say that they had not sighted the JSA and were not familiar with its contents. Whilst they stated¹⁸ that prior to the incident with Mr Dickman, they had not seen

¹⁶ Footing refers to having another person present to ensure that the ladder does not shift or walk.

¹⁷ T410 – 411

the SWMS and that their information about safe work practices largely came from their experience and information from other tradespeople, the induction documentation shows that all the employees had received induction in the site, including the JSA and SWMS, and had signed to this effect. The reality appears to be that there was no detailed or careful analysis of the duct installation work safety issues or discussion of the SWMS with the employees prior to this incident.

77. Mr Ward's evidence was that the SWMS was already complete by the time it came to him at the workplace to administer and that he had no input into the contents of the SWMS. The tool box meetings were conducted after the development and implementation of the SWMS. Mr Ward's evidence was that it was his role to arrange for the workers on site to sign a register saying that they are all aware of all of the SWMS and the protocols for doing the work.¹⁹
78. The SWMS dated 25 February 2009,²⁰ included a requirement that personal protective equipment be worn, including eye protection and helmets when working to install the ducting. The evidence is also that both the site foreman and site safety manager walked the site on a regular basis to ensure that safety requirements were met. The evidence satisfies me that there was no supervision as to the wearing of eye protection whilst undertaking the spiro duct installation work, at least on that day, and that Mr Dickman was not wearing that personal protective equipment, including helmet and eye protection, at the time of the fall.
79. Mr Ward stated²¹ that the SWMS provided step by step instructions on how a job is to be done. He stated:

"It covers the hazards and risks associated with the work and the safety measures to be taken to deal with these. It also covers the equipment that is to be used to do the job... If a ladder is to be used the SWMS provides instructions about how to use a ladder, how high a person is permitted to go on a ladder, any relevant safety precautions that need to be taken and a

¹⁸ Exhibits 12 and 13 and at T87

¹⁹ T. 381. 8

²⁰ Exhibit 18 -Tab 4.5

²¹ Exhibit 5 paragraph 40

reminder that three points of contact is required at all times. The three points of contact are feet and legs or waist as a minimum”.

80. The SWMS did not provide “*step by step instructions*” on how the work was to be performed. It did not identify the equipment to be used. It did not identify that an explosive power tool was being utilised and risks associated with the use of such equipment, it did not identify that the work method would alter depending upon whether Builders Strap or All Thread was used. It identified that the work would be performed from a ladder and advised “*use a step platform where possible*”.
81. It did not identify possible risks, which in my view were readily apparent from the nature of the work being performed, the principal one of which was loss of balance and consequent falling from the ladder at some height to the floor. It failed to identify the multiplicity of tasks being undertaken, the use of the explosive power tool, the need to use two hands to undertake the work and the consequent lack of capacity to hold onto the ladder.
82. In addition it failed to consider or identify the difficulty in maintaining three points of contact at all times having regard to the intricacy of the fixing task. It did not identify relevant steps which may be taken to ameliorate the risk such as request that the builder remove the ceiling grids so as to allow for the use of a step platform or platform ladder or footing the ladder.
83. It was these very factors, which it appears that the principal Australand required of its subcontractors when in its documentation²² it states that it required the SWMS to: “*set out step by step (tasks) how the work activity is to be carried out*”. That is, identify the components of the task. The SWMS document does not do that in relation to ducting installation, despite being signed off by Australand administrators as complete.

The illusory distinction between above or below 2m

²² Exhibit 18 Tab 4.4

84. The circumstances of this case satisfy me that distinction drawn in industry and by safety authorities, between '*working at height*' above 2m or working '*at a height below 2 metres*', (the latter of which is not regarded as '*working at height*') is a dangerous and illusory distinction. I am satisfied that this distinction is prone to encouraging a lack of attention to the risk of falls from working at any height off ground level and also results in less attention to remedial steps to prevent falls from the lesser height. An example of this is the requirement that a specific height related JSA be completed for working at height (above 2m) but there is no requirement for a specific JSA for working at under 2m, say at 1.95m.
85. Mr Dickman was working in the ceiling cavity and required a ladder to undertake the work. The ceiling grid was at a height of 2700mm from ground level. The ladder was a 2 metre ladder. Those present at the time of the incident reported Mr Dickman as being on the fourth or fifth rung of the ladder from the ground. His head was inside the ceiling cavity as he worked to affix the Builders Strap to the band beam which was at 3320mm.
86. Counsel for Allstaff submitted that he was at a height of 1.2 metres or 1200mm. The Australand Incident report²³ describes that Mr Dickman was working at a height of 1.8m and at a height of 1.35m from the ground. Australand documentation referred to a height of approximately 1.5m in documentation and employees statements and evidence in the proceedings entitles a conclusion that he was at least 1.5 metres from the ground. What is clear is that his head was above the top rung of the 2 metre ladder and at or around the height of the ceiling grid. The consequence of this is that his head was at least at 2700mm, a significantly higher level from the ground than 1.5 metres.

Three Points of Contact

87. Maintenance of three points of contact is a concept which has been considered during the course of the proceeding. Mr Rocco's evidence was that in his opinion three points of contact means two feet on the rungs and one hand to steady. Some witnesses gave evidence that it is sufficient to comply with that requirement for there to be two feet and either knees or chest

²³ WorkSafe Materials Page 336

maintaining contact with the ladder. Their evidence was that a hand or hands were not necessary. This does not appear to be consistent with the proposition throughout the safety material that ladders are generally not appropriate for tasks requiring the use of two hands.

88. In any event, having regard to the work being performed, I am satisfied that it was not possible for Mr Dickman to undertake the task and maintain three points of contact, even if one accepts that feet and knees or chest meets that definition. The evidence is that Mr Dickman was observed to be leaning slightly backwards from the ladder to undertake the alignment of the hole in the Builders Strap and the placement of the drill. I am satisfied that he did not have three points of contact with the ladder at this time and that the deviation from that contact was necessary in order to enable him to undertake the task.

Unlikely Event

89. There was a suggestion in the proceedings that the incident was appropriately characterised as an unlikely event, which could not have been reasonably foreseen or anticipated having regard to the nature of the work. I do not accept that characterisation.
90. An overview of the publications of Australian and International Work Safety Authorities suggests that the issue of working from ladders has been a matter of some concern over a number of years and that the danger of falling from a ladder is a risk that had been clearly identified and publicised.
91. A WorkSafe publication entitled: *Prevention of Falls – Ladders June 2005*²⁴ are guidelines directed to reducing the likelihood of injuries from falls, both above and below two metres. They describe that the *OHS (Prevention of Falls) Regulations 2003* place ladders in the lowest level of control of falls risks. They set out factors to be taken into account if a ladder is proposed to be used. These factors include:

- i. is the person who will undertake the task new to the task,

²⁴ WorkSafe materials page 443

- ii. will the job involve heavy work or the use of both hands to hold something,
- iii. will the job involve the use of tools such as stillsons or pinchbars that require a high degree of leverage that may result in someone overbalancing or falling,
- iv. does the task need power tools or other equipment designed to be operated with two hands,
- v. will the person be required to work on the ladder for more than a couple of hours increasing the likelihood of fatigue,
- vi. does the ladder show any evidence of faults such as missing, cracked, broken, loose, worn or warped parts.
- vii. are there any other factors present that might increase the risk of a fall from a ladder

92. The publication then states:

“If the answer to any of these questions is yes then additional measures will need to be put in place to allow the task to be done safely or else the task cannot be done using a ladder or it may not be able to occur at all. If adequate safety measures are not available to undertake a task safely you may need to wait until measures are made available or conditions change or you have a measure purposely designed and built if applicable.”

93. The examples given by the publication as to when use of a ladder may be acceptable include inspecting or assessing or undertaking minor maintenance near the eaves or ceiling of a structure and the example given is changing a light bulb or inspecting or servicing air conditioning equipment. The examples of appropriate tasks provided by the WorkSafe publication include installing hooks, nails, ornaments, basic shelving and pot plants.

94. It is apparent that the work being performed by Mr Dickman, required the use of both hands, the use of a power tool also designed for two hands and was installation work, not minor maintenance.

95. A further document published by WorkSafe Victoria: *Prevention of Falls in General Construction- November 2008*, (working at height not exceeding two metres) describes the necessity to assess and undertake risk management, to consider ways of doing the task more safely and of taking action to eliminate the risk and if not reasonably practicable to reduce the risk.
96. At page 12 of that publication²⁵ the document identifies as a hazard working from a stepladder and states that most ladder related injuries occur as a result of falls from low heights. Sideways tipping is the cause of most stepladder injuries and this risk increases as the worker ascends the ladder. The publication states that the worker is often working alone and does not have anyone to hold the stepladder to stabilise it.
97. In a further publication²⁶ *Fitout & Finishing Checklist for Builders and Building Trades Contractors (October 1998)* under the topic, "Are Ladders Being Used Safely?", the authority directs:
- "Ladders should only be used for very light work where there is no danger of overreaching and the worker can steady themselves at all times. Ladders should only be set up on firm flat surfaces. Single and extension ladders should be fixed against movement or footed by another person".*
98. These publications over a period of time identify that the risk and the measures expected and required to ameliorate that risk were known and well publicised by the occupational safety authority to the building, construction and fit out industry.
99. The nature of the work being performed and the circumstances in which it was performed created a risk of instability on the ladder, which was likely and foreseeable by any person who made a proper and fulsome assessment of the work practices. The structural deficiencies in the ladder contributed to this risk.

²⁵ WorkSafe brief materials page 467

²⁶ WorkSafe Brief materials page 446

100. The risk associated with working above ground level on a ladder in a ceiling cavity, using both hands to perform the task, involving precise placement of fixings and a power tool which operates by an explosive mechanism resulting in recoil is readily apparent.

101. I find that the following matters contributed to the death:

- a) The performance of Spiro Ducting Installation tasks from an 'A' Frame Ladder;
- b) The ladder from which Mr Dickman was working was defective and unstable as a consequence of modifications and irregular replacement parts;
- c) The inadequate and incomplete SWMS which resulted in a failure to identify the level of risk of fall from ladder;
- d) The failure to provide an alternative work method such as a platform ladder or work platform from which to perform the work;
- e) The failure to properly examine whether an alternative work method was available on site and the mechanism by which such an alternative may be utilised, either by work programming for installing prior to ceiling grid installation, or by removal of ceiling grids;
- f) The failure to ensure that the ladder was footed in the absence of other protective measures being available;
- g) The failure of Mr Dickman to wear safety glasses and head protection in accordance with the SWMS requirements;
- h) The failure of the employer to adequately supervise the wearing of safety equipment contributed to the death.

COMMENTS:

Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comment(s) connected with the death:

102. A ladder is a suitable tool for the undertaking of routine tasks, however the performance of complex tasks such as installation of spiro ducting is a practice with significant risk of falls and injury.
103. The SWMS produced by Allstaff and endorsed by Australand, was a limited and superficial document which failed to identify the most basic of risk factors in the work being performed and did not engage in any serious analysis of the work being performed, the risks which may be associated with that work and practical and available steps to ameliorate that risk.
104. It is easy to be blindsided by the existence of voluminous documentation, rely upon it having been 'ticked' off and lose sight of the need to actively interrogate the actual work process and supervise its undertaking on the ground.
105. I am also satisfied that if three points of contact is a safety criteria for undertaking work on a ladder then at least one hand should form the basis of the contact. This is consistent with the WorkSafe guidelines for safe practice.
106. If the technology and engineering ingenuity of today does not extend to providing a safe manner of undertaking the spiro ducting installation work, absent the use of a ladder, then resort should be made to more traditional measures of making the employee safe such as footing the ladder. This was traditionally a manner of providing stability to the ladder. The evidence of Mr Pobega was that he did just that, with the assistance of an apprentice, during the course of installing other ducting on site. The evidence of Mr Ward was that this was currently occurring on construction and fit out sites and was available to employees fitting spiro ducting on request.
107. Immediately after the incident, Allstaff implemented a more extensive safety assessment process in relation to the use of ladder by a specific Ladder Use SWMS entitled (OHSE)O18 – "Working Off Ladders".²⁷ adopted on 17 March 2009. WorkSafe were advised of its adoption.

²⁷ WorkSafe materials Tab 27 – page 205 – 211.

This ladder use policy included a number of directives in relation to the extent and type of assessment which should be undertaken of the work and the appropriateness of using a ladder. The specific ladder SWMS provided detailed guidance as to the use of ladders and the dangers associated with their use. It provided some guidance as to measures to ameliorate risk.

108. Whilst this document went some way to articulating the risk management issues to be considered in using a ladder, it was withdrawn and the evidence was that it no longer continues to be part of the assessment or risk management process utilised by Allstaff.
109. What remained was a newly adopted (within a day or so of the incident) generic duct work SWMS exhibit 17 which did not include any specific guidance in relation to ladder use. The new SWMS like the old contained the directive, 'Use a step platform where possible', however it (as with the old SWMS) offered no guidance as to how to determine if it was 'possible'. It still did not answer the question: "*How do I protect myself when performing this work from an 'A' frame ladder if it is not possible to use a step platform?*" No further direction or guidance is given to the employee or the supervisor about what to do next to protect against the possibility of injury or death from the known risk of falling.
110. Additional measures were also implemented for inspection of ladder integrity and the evidence is that greater emphasis was made at toolbox talks of the need to use a ladder safely. There was evidence that Allstaff purchased podium ladders, which are available for the employees to use, but are not mandated and are generally only suitable when the grid is not in position.
111. The evidence of Mr Colin Taylor, National Manager of Occupational Health Safety and Environment BSA Limited and responsible for Allstaff, was that a review of the procedures and policies was being undertaken and that he anticipated that a new Portable Ladder Use policy would be implemented by the company in October or November of 2011. That document²⁸ establishes a control hierarchy in relation to the use of ladders and identifies

²⁸ Attachment to the statement of Mr Taylor (Exhibit 9)

specific measures which must be considered prior to use of a portable ladder. It also refers to the implementation of administrative controls.

112. A new code of practice was issued on 1 January 2012, by Safe Work Australia, the Commonwealth Work Health and Safety policy body, entitled *Managing the Risk of Falls at Workplaces*. The code of practice addresses the safe use of ladders and includes the directive that when a ladder is used it should be of good condition and inspected for faults before use. Specifically it provides that “only light duty work be undertaken while on the ladder, where three points of contact can be maintained and tools can be operated safely with one hand²⁹”.
113. Having regard to my findings in paragraph 101 (a) to (h) herein I believe that an indictable offence may have been committed in relation to the death arising from the provisions of the Occupational Health and Safety Act 2004 (Vic).

RECOMMENDATIONS:

Pursuant to section 72(2) of the **Coroners Act 2008**, I make the following recommendation(s) connected with the death:

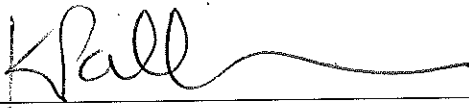
1. That the Victorian Workcover Authority and/or its agency WorkSafe Victoria, should immediately advise building and construction contractors to cease using ‘A’ frame ladders for the installation of air conditioning ducting and utilise methods of installation, which provide for a stable work platform from which the work may be performed. That the Victorian Workcover Authority publish a safety alert to this effect.
2. That the Victorian Workcover Authority and/or its agency WorkSafe Victoria, abolish the distinction between working at height above or below two metres, in its publication of guidelines to industry in relation to falls protection.

²⁹ Page 34 to 48

3. That the Victorian Workcover Authority and/or its agency WorkSafe Victoria, restate in its publications the risk of death and serious injuries from falls from any height and that working from ladders is a particular risk.

I direct that a copy of this finding and recommendations be provided to the following: **the family of Mr Dickman; the Interested Parties; The Victorian Workcover Authority and WorkSafe Victoria; Safe Work Australia; Mr Stephen Rocco; Mr Perry Pobega; Ms Deanne May of Industrial Support Advocacy.**

Signature:



Coroner K.M.W. Parkinson

Date: 29 February 2012



