

IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2010 000921

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)
Section 67 of the Coroners Act 2008

Inquest into the Death of: RACHEL EMMA MEAD

Delivered On:	5 SEPTEMBER 2013
Delivered At:	CORONERS COURT OF VICTORIA Level 11, 222 Exhibition Street Melbourne Victoria
Hearing Dates:	13 MAY 2013
Findings of:	CORONER K. M. W. PARKINSON
Police Coronial Support Unit Assisting the Coroner	Sergeant David Dimsey

I, CORONER K. M. W. PARKINSON, having investigated the death of RACHEL EMMA MEAD

AND having held an inquest in relation to this death on 13 MAY 2013

At MELBOURNE

Find that the identity of the deceased was Rachel Emma Mead

Born 11 February, 1987

And that the death occurred on 8 March 2010

At: Hume Freeway, Epping, Victoria

From:

1(a) Blunt force trauma to the head (cranial fractures and pneumocephaly);

1(b) Motor Vehicle Impact (Pedestrian).

in the following circumstances:

1. An inquest was held into the death of Ms Rachel Emma Mead on 13 May 2013. The inquest brief included statements of witnesses who have been called by the Coroner to expand upon their statements and statements from a number of persons who have not been called but whose statements form part of the evidence before me. The inquest brief also included expert witness statements and reports from Victoria Police collision investigators. Whilst I do not refer to all of the material or its contents, I have considered all of this material in my finding in this matter.
2. The following witnesses were called to give evidence at the inquest: Ms Dimitra Mougrakis; the investigating member, Senior Constable Jason Bolitho; Sergeant Leigh Booth and Senior Constable Jamie Hetherton of Victoria Police mechanical investigation unit and Mr Ross McArthur, Manager Vehicle Safety and Policy VicRoads. Expert metallurgist, Dr Saman Fernando was retained by the court to advise and to provide a report as to any possible metallurgical integrity issues with the truck wheels or fixings and gave evidence.

3. A statement was obtained from Detective Sergeant Brendan Butland of the Victoria Police Major Collision Unit. The court was advised that Mr Leon Schilg, the truck driver involved in the incident died prior to the commencement of the inquest. I have relied upon Mr Schilg's statement to the Coroner and the transcript of a record of interview he undertook with Victoria Police.

BACKGROUND AND CIRCUMSTANCES OF THE COLLISION

4. Ms Rachel Mead was 23 years of age at the time of her death. She was married to Mr Kenneth Mead and resided at Eltham in Victoria.
5. On Monday 8 March 2010 at approximately 11.10 p.m. an Iveco prime mover and semi trailer, registered in NSW and driven by Mr Leon Schilg was travelling in a southerly direction along the Hume Freeway at Epping. The truck was approximately 1 kilometre south of Cooper Street, when the two rims and tyres from the nearside centre rear axle of the semi-trailer dislodged completely from the rig.
6. At approximately 11.10 p.m. Mr Shane Muscat¹ observed the semi-trailer with three rear axles overtake the vehicle he was driving. He stated that as the vehicle overtook him he could hear a "squealing noise". As the semi-trailer re-entered the lane in front of Mr Muscat he observed two tyres and rims come off the truck from the passenger side. At this time, Mr Muscat dropped back and his vehicle was approximately 200m to the rear of the truck. Mr Muscat observed the wheels bounce across the left lane and shoulder and hit the concrete wall. He then observed one tyre bounce off the wall and begin to bounce and roll towards his vehicle. He did not observe what had happened to the second wheel. He was able to take evasive driving action to avoid impact with the wheel. Police subsequently located the second wheel on a roadside area.
7. Mr Muscat followed the truck and advised the driver, who was unaware that his wheels had been lost. He reported that the section of roadway where the wheels had disconnected was very dark as there was no freeway or other lighting. Both Mr Muscat and Mr Schlig were unaware of the collision which had occurred.

¹ Statement Mr Shane Muscat dated 23 March 2010, page 1 of Inquest Brief.

8. Also at about this time (approximately 11.10 p.m.) Ms Rachel Mead was a passenger in a 2009 black Holden Utility vehicle registered XDS800 being driven in a southerly direction along the Hume Freeway, by her husband, Mr Kenneth Mead. They were returning to their home at Eltham after visiting family in Shepparton.
9. Approximately 1 kilometre south of Cooper Street, the front near-side wheel of the utility struck one of the truck wheel rims, which was lying flat in the right hand lane of the freeway. The truck wheel rim appeared to Mr Mead to have come from a truck, which had been travelling in front of their vehicle.
10. The utility had sustained severe damage to the front end and steering and as a result, Mr Mead pulled his vehicle off the road onto the right hand side shoulder, in order to inspect the damage to his vehicle.
11. Mr Mead put on his vehicle hazard lights and both Mr and Ms Mead exited the vehicle. They went to the roadside of the vehicle to check the damage. Damage had been sustained to the wheel and wheel rim of the utility on the front near side. Mr Mead described that they did not feel safe at the roadside, so they moved away from the road edge to the roadside wire barrier on the median strip. At this point they were in front of Mr Mead's utility vehicle, but some way off the edge of the road.
12. Shortly after they had moved to the median strip location, another vehicle, a 1996 Holden Commodore sedan, registered WNN639 driven by Ms Dimitra Mougrakis also collided with the truck rim and tyre on the roadway. The impact caused her vehicle to travel off the roadway and collide with the wire rope barrier located on the centre median strip. Her vehicle then careered along the median centre strip towards where Mr Mead and Ms Mead were standing alongside the wire rope barrier. It made its way between Mr Mead's parked utility and the wire rope barrier and collided with Ms Mead.
13. Mr Mead observed the oncoming vehicle at the last minute and was able to move out of the path of impact, however Ms Mead was struck by the car and thrown onto the bonnet of the car hitting the windscreen, and was then thrown over the wire barrier. Ms Mead came to rest on the northern side of the grass centre median strip approximately 28.2 metres from where she was struck.

14. Ms Mead sustained catastrophic head injuries in the collision and despite resuscitation attempts by Ms Mougrakis and ambulance paramedics, was deceased at the scene.
15. Police investigators attended and examined the scene. The truck driver and the driver of the motor vehicle which collided with Ms Mead, provided samples for analysis which were negative for alcohol or drugs.

FORENSIC PATHOLOGIST EXAMINATION AND EVIDENCE

16. A post mortem examination was undertaken by Dr Malcolm Dodd, Forensic Pathologist with the Victorian Institute of Forensic Medicine. Dr Dodd reported that the cause of death was 1(a) Blunt force trauma to the head (cranial fractures and pneumocephaly; and 1(b) Motor Vehicle Impact (Pedestrian).
17. Dr Dodd reported that the post mortem CT scan identified extensive cranial fractures and the presence of air within the cranium. In his opinion, the immediate cause of death was extensive blunt force trauma to the head as a result of being struck by a motor vehicle.
18. The toxicological analysis was negative for ethanol and common drugs or poisons.

THE LOCATION AT WHICH THE INCIDENT OCCURRED

19. There were no unusual road or environmental factors which caused or contributed to the collision. The vehicle driven by Ms Moudrakis struck the wire barrier, which operated as it was intended, to prevent the vehicle from crossing into the path of traffic on the oncoming north travelling lanes.

EYE WITNESS ACCOUNTS OF THE COLLISION

20. Ms Dimitra Mougrakis'² evidence was that she was travelling at approximately 95 to 100 kph in the right hand lane of the Hume Freeway travelling south. She overtook three or four semi trailers travelling in the left hand lane and as she overtook two of the trucks, at the last minute, she observed a tyre sitting in the middle of the lane in which she was travelling. Her car hit the

² Exhibit 1- Statement Ms Dimitra Mougrakis dated 9 March 2010.

wheel front on and Ms Mougrakis reports that after the impact with the truck wheel her vehicle became airborne and careered out of control. The vehicle travelled onto to centre median strip area and travelled along the strip against the wire rope fence towards Mr and Ms Mead. The vehicle travelled along the fence line and in the gap between the fence and Mr Mead's vehicle. Photographs identify the impact of the wire fencing as it dragged along the vehicle. Ms Mougrakis reports that she braked heavily and the vehicle skidded off the grassed area and came to rest in the right lane of the freeway on an angle with the drivers door facing on coming traffic. A number of fencing posts were displaced.

21. Mr Kenneth Mead stated that he observed the vehicle at the last moment as it was careering towards them and there was little opportunity by either him or Ms Mead to react to the oncoming vehicle. He observed the vehicle impact with Ms Mead and immediately after ran to her assistance.

THE TRUCK DRIVERS ACCOUNT

22. The truck was a 10-year-old Iveco Powerstar 6500 prime mover registered XFZ 709 and manufactured in 2000. The prime mover was first registered in 2001 and was purchased by Mr Schilg in around 2005. It was a prime mover with single axle steering and dual axle drive wheels. The trailer was a Hamelex brand trailer, an aluminium tipping trailer with a gross weight of 36 tonne. The trailer is tri-axle with dual tyres on each axle.
23. The NSW Heavy Vehicle Registration Roadworthiness Requirements are similar to Victoria in relation to the vehicle standard and roadworthiness³. In addition an inspection of the vehicle is required prior to renewal of registration.
24. Mr Schilg was an experienced truck driver of in excess of 35 years and had a good driving record. He held a heavy combination vehicle license issued by the NSW Road Traffic Authority ('RTA') and had held this license for five years. Previously he held a Heavy Rigid License for approximately 30 years.
25. Mr Schilg utilised the truck to transport farm produce from his properties in NSW to destinations in Victoria and NSW. On 8 March 2010, he had loaded the trailer with wheat at

³ Inquest Brief - page 96.

Walla Walla, NSW and was transporting it to Laverton, Victoria. The load was within the limit for the truck tonnage.

26. He had left Walla Walla at approximately 7.45 p.m. and was intending to drive four hours to the delivery depot at Laverton and sleep in his truck at that location whilst awaiting the depot opening the following morning.
27. Mr Schilg stated that he had the truck serviced every 20,000 kms by an authorised service centre, Tallis and Sons at Jindeera NSW and this last occurred in February 2010.⁴ A compliance notice was issued by NSW RTA when he sought to renew his registration in February 2010. Compliance was made with the requirements for registration. Service documents record that the truck was serviced and repairs made with compliance documents issued on 8 February 2010.⁵ Neither the pre-registration inspection nor the service centre identified any deficiency with the security of the wheel fastenings on that inspection or service.
28. Mr Schilg stated that he himself undertook the routine maintenance on the vehicle and that he inspected the vehicle before every trip. He stated that on this occasion he visually inspected the wheels and observed that each wheel was being held on correctly. He had last physically checked the tension of the wheels and wheel nuts approximately one week prior to the trip. He did not physically check the tension of the wheel nuts on 8 March, prior to embarking on this journey.
29. Mr Schilg stated that he had found that it was necessary to tighten the wheel nuts frequently and that he estimated that it would be necessary to tighten at least some on a fortnightly basis. When re-tightening he stated that it required a half turn to secure the wheel nuts. He had not however considered that there was a problem with the fasteners or the wheels and he had never previously experienced loss of a wheel.
30. Mr Schilg stated that there was no reason to believe that the wheels had been removed at the recent service or that anyone would have had access to the wheels to enable them to

⁴ Inquest Brief page 89 - Statement of Mr Leon Schilg dated 9 March 2010 at page 2.

⁵ Inquest Brief page 96 – Various documents Road Traffic Authority NSW.

deliberately interfere with the wheel nuts prior to or during the course of his journey. The inspection by Sergeant Booth suggests that the wheels had not recently been removed.

31. Each of the expert witnesses, Sergeant Booth, Dr Fernando and Mr McArthur stated that the fact that Mr Schilg found it necessary to tighten the wheel nuts so frequently and to such an extent, suggested that there was an inherent fault with the clamping mechanism requiring investigation and repair.

POLICE SCENE INVESTIGATION

32. Police photographed and undertook extensive scene investigation including mapping, measurements and diagrams.

THE TRUCK AND THE TRUCK WHEEL AND EXPERT EVIDENCE RELATING TO THE CAUSE OF THE LOSS OF THE WHEEL

33. The truck, trailer and wheels were examined by Victoria Police mechanical investigator Sergeant Booth described the Spider Hub wheel Assembly and its mechanism as follows:

“This trailer was fitted with wheel/hub assemblies commonly called ‘spider’ wheels/hub (Appendix 1). An undamaged offside hub can be viewed at photographs 1 and 2⁶. The hub fitted to the nearside mid axle was a Malco brand with five studs. Basically the hub has a bevelled inner shoulder which provides a seat on which the inner wheel sits with its corresponding bevelled shoulder. A metal spacer (photograph 19) is then fitted, after which the outer wheel is fitted against the spacer. The mating surface between the wheels and the spacer is flat. i.e. not bevelled. When the outer wheel is fitted on the hub, wedges or cleats are fitted on to each of the 5 studs. When the wheel nuts are tightened against the wedges, this will force the wedge in against the angled shoulder of the outer wheel, then to the spacer, thereby providing a clamping force against both wheels against the inner shoulder of the hub.”

⁶ The reference to photographs is a reference to photographs contained in Exhibit 6.

34. Sergeant Booth reported that his examination of the wheel and spider assembly revealed:

- Of the five wheel studs on the nearside assembly, only 1 had a nut still connected (photographs 3 and 4). There was no wedge between this nut and no damage to the stud, indicating that there would have been no clamping action provided at this stud. (photograph 7).
- One stud was broken off (photographs 4 and 5) which was recent damage consistent with occurring immediately prior to dislodgment of the wheels.
- Apart from minor damage to some studs, i.e. flat impact damage, not circumferential damage, there was no damage to the threads of the studs which would indicate that they had been continually hammered by loose wheels. There was no other apparent distortion of the studs.
- The tyres located at the scene were refitted at the time of inspection in an attempt to ascertain whether there was sufficient clamp force with only 2 wheel nuts/wedges in place. When refitted (photograph 20) the assembly would not remain firmly in place with only 2 wheel nuts and wedges.

35. As to factors contributing to the loss of the wheel, Sergeant Booth reported that:

- The original spacer may have been worn or was an incorrect size, thereby reducing clamping force;
- If the wheel nuts required regular tightening, this is indicative of a problem, i.e once tightened they should remain tight;
- Wear marks around the circumference of the wheel hubs indicate that the wheels have been loose and spinning for some considerable distance;
- Damage to the shoulder/flange of the wheels has been caused by either the wheel nuts or by the wedges/cleats due to movement of the wheel.

- Possibly only two wheel nuts were in place i.e. the remaining 3 wheel nuts have inadvertently not been fitted, or perhaps deliberately removed by someone. (although after discussions with Dr Fernando, Sergeant Booth considered this unlikely)
 - That without locating the original wheel spacer, wheel nuts and wedges it is not possible to determine the clamping force available and it would be difficult to determine the exact cause of loss of wheels.
36. Sergeant Booth stated that whilst he had made a thorough examination and numerous inquiries of industry participants, he was unable to form a firm conclusion as to exactly how the wheels had become loose and dislodged although in his evidence he stated that as there was no damage to the studs it made sense that the wheel had vibrated off the trailer.
37. From a prevention point of view, Sergeant Booth commented that:
- Wheel nuts should be tightened by hand and not by impact gun, and should be cracked to ensure sufficient clamping force;
 - That clamps should be checked to ensure that they have sufficient clamping force, i.e. clamps are not to be tightened hard up against the shoulder. There must be sufficient gap to provide clamping action.

Expert Evidence of Dr Fernando

38. Dr Fernando's evidence was that the particular design of the wheels fitted to the truck was a Spider wheel design. The wheel design was more sensitive to the manner in which it is tightened in terms of its potential to become loose and was less forgiving of a less precise adjustment.
39. His evidence was that whilst the design was not faulty, the design assumes certain conditions are met for that design to work and he reported that '*those conditions are little bit tricky to achieve*' in comparison to other wheel designs which may be more '*forgiving of less precise adjustment*'.

40. Dr Fernando inspected the wheel, nuts and joins and reported:

"Based on the above observations and considerations, I formed the following conclusion. The dislodgement of the wheels was caused by insufficient clamp force on the wheels. This insufficient clamp force caused at least three nuts to loosen (need not have occurred at the same time) completely and subsequently to lose retaining cleats. Over-stressing due to this condition caused one of the studs with remaining nuts to break forcing the failure of the remaining cleat and total failure of the joint causing the wheels to dislodge. Wheels moved against the hub, cleats and spacer for a reasonable time, approximately around three kilometres of travel, before the total failure."

41. Dr Fernando concluded:

"If the nuts had been adequately tightened before the truck and trailer left for Laverton that night this failure would certainly have been avoided".⁷

42. His evidence was that had the driver, before he left on the journey gone around the truck and 'cracked' every one of the nuts that they probably would have stayed on for this entire trip⁸.

43. Mr Ross McArthur, Manager Vehicle Safety of VicRoads stated that wheel security is a known issue in the industry both in relation to the Spider wheel type designs and in the disc wheel type designs. He stated that it is important the wheels be installed in accordance with the manufacturer's instructions and the nuts, torqued up to the right torque. He stated:

"With a disc wheel the torque is very high or can be 500 to even 800 Newton metres of torque, with the Spider wheels it's down at around two to 350 Newton metres of torque. But either way you've got to have it torqued to the - you've got to have the wheel on properly and straight and true with no dirt between the meeting parts and you've got to have all those nuts torqued to the correct torque because in any wheel type if you don't, there's a risk of a wheel falling off".

⁷ Exhibit 7 - Report of Dr Saman Fernando dated 04/09/11 at page 9.

⁸ Exhibit 5 - Statement Senior Sergeant Booth and Transcript dated 13 May 2013 at pages 23 - 24.

44. Whilst there was a difference as to the torque values suggested by Dr Fernando and those identified by Mr McArthur as generally applied in the industry, there was agreement as to the need to ensure that the nuts are correctly torqued. Irrespective however of torque loading, Dr Fernando commented:

“this is quite a large load to apply manually and that certain debris in the threads, uneven tightening, minor damage to stud threads and nuts, tight fitting nuts, misalignment in cleats, excessive friction in heat bearing surfaces could cause insufficient tension on the stud even when the correct amount of torque is applied.”⁹

45. The evidence was that inspections of wheels with particular attention to the security of wheel assemblies by inspecting for broken studs or nuts and a recommended industry practice is that following any wheel assembly work, the driver should physically check the security of wheel assemblies approximately 50 to 100 kilometres from the commencement of the trip following the work¹⁰.
46. The evidence is that the truck was regularly maintained by an authorised motor mechanic and that Mr Schilg undertook regular inspections of the vehicle tyres and wheels. However, the evidence of experts is that the particular wheel design results in the wheel being vulnerable to loosening and that more regular tightening of wheel nuts is required and greater vigilance in the inspection of the adequacy of tightening.
47. The evidence of Dr Fernando, Sergeant Booth, Senior Constable Hetherton and Mr McArthur was that the fact that Mr Schilg was finding it necessary to tighten the wheel nuts fortnightly, suggested that there may have been a problem with the wheel fastening which warranted more expert examination and adjustment. It indicated that the wheels were not properly fastened and that there was likely insufficient clamping force being applied.

⁹ Exhibit 7 – Report Dr Saman Fernando dated 4 September 2011 at page 8.

¹⁰ Exhibit 8 Statement Mr Ross McArthur dated 7 February 2012.

CAUSE OF DEATH AND FACTORS CAUSING OR CONTRIBUTING TO DEATH

48. I find that Ms Rachel Mead died on 8 March 2010 at Hume Freeway Epping, Victoria and that the cause of her death was 1(a) Blunt force trauma to the head (cranial fractures and pneumocephaly; and 1(b) Motor Vehicle Impact (Pedestrian).
49. I find that a number of factors contributed to the death of Ms Mead and that her death was preventable.
50. Having regard to the timing and speed of the collision and the direction of the oncoming vehicle, it is appropriate to comment that Mr Kenneth Mead was not in a position to do anything which might have protected Ms Mead from the oncoming vehicle. He had already taken steps to ensure their safety from traffic on the roadway by relocating behind the utility vehicle. The path of the oncoming vehicle along the median strip fence and between the utility and the fence could not have reasonably been anticipated.
51. I find that the vehicle driven by Ms Mougrakis struck the wheel of the truck trailer lying on the freeway. That Ms Mougrakis did not see and could not reasonably have been expected to see the wheel on the roadway. She was not able to avoid the collision with the wheel. The impact caused Ms Mougrakis to lose control of her motor vehicle, which left the roadway resulting in the collision with Ms Mead. There was no element of Ms Mougrakis' driving which might have contributed to the collision.
52. I find that the loss of the wheel occurred as a result of the loosening of the stud and nut mechanism of the wheel. There is no evidence of metal fatigue being a factor in the failure.
53. I find that this failure likely resulted from ineffective operation of the clamping mechanism which over the course of the journey on 8 March 2010, allowed for the loosening of the wheel nuts and the loss of the wheels.
54. The reason for the ineffective clamping may have been associated with failure to adequately torque the wheel nuts, or inappropriate or damaged wheel clamps or incorrect fitting of the spider wheel.

55. I am satisfied having regard to the evidence of Mr McArthur, Sergeant Booth and Dr Fernando that a manual check of the security of the wheel nuts pre-journey, would likely have disclosed that the wheel nuts were not secure and required tightening.
56. I find that had there been adjustment of the wheel nuts prior to the journey on 8 March, 2010 that the wheel loss would not have occurred and Ms Mead's death would have been prevented.

COMMENTS

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

57. Mr Ross McArthur, Manager Vehicle Safety and Policy (VicRoads) stated that there had been an increase in the number of roadside inspections of heavy vehicles conducted by his organisation, partly directed towards the issue of wheel fastening integrity. He also concurred with Dr Fernando as to the possibility of a problem with the fasteners on the particular truck.
58. Evidence in the proceedings identified that there is a difference between the industry recommended torque standards for spider wheel systems and those recommended by Dr Fernando. Mr McArthur stated that the torque values recommended in a number of industry publications are approximately half the value recommended by Dr Fernando¹¹. He exemplified publications of the Road Transport Freight industry "Changing truck tyres" which recommends Spider rim to 250Nm and the Australian Trucking Association document which recommends between 220 and 350Nm depending upon Stud size¹².
59. Dr Fernando stated: 'in my opinion based on industry standards this would require a torque load of approximately 500Nm which equates to approximately 100kg load at the end of a 500mm lever or 85kg load at 600mm lever arm'. Dr Fernando clarified that the industry standard he was referring to was a fastening industry standard and that the trucking industry adopted a different standard in relation to that of the fastening industry. That issue is not one,

¹¹ Exhibit 8 – Statement Mr Ross McArthur dated 7 February 2012 and Transcript at page

¹² Australian Trucking Association – Industry Technical Council Advisory Procedure – Commercial Vehicle Wheel Security.

which can be comprehensively addressed within the Coronial process, however warrants further examination in an industry context. I will recommend that discussions be held between the industry groups, VicRoads and appropriate experts, as suggested by Mr McArthur, in relation to the identified issue of difference between trucking industry torque recommendations for spider wheel systems and those recommended by Dr Fernando in his report to the Coroner.

60. Both Dr Fernando and Mr McArthur agreed that the fact that Mr Schilg had quite often found the nuts loose and that they required tightening on a regular basis, often with half a turn to retighten, suggested that the spider wheel assembly or nut torques may not have been in accordance with manufacturer's specifications.
61. Mr McArthur stated that VicRoads has developed a program in co-operation with the Australian Road Transport Association to distribute information via their network to heavy vehicle operators in relation to proper maintenance of heavy vehicles.
62. Mr McArthur agreed that an individual owner operator who may not be a member of a large industry trucking group or association may not be reached by the industry campaign and consequently the roadside inspection program was important. He stated:

“The smaller operators are not generally members of say, for example, the Victorian Transport Association and that's where our on road inspection program starts to be one of the prime educational tools if you like and we for about 18 months have stepped up our on road vehicle inspections and all around the state. I've got some data here somewhere, since October last year we inspected 1486 vehicles at our roadside inspection, as part of our roadside inspection campaign. We keep data from those roadside inspections.”

63. His evidence was that of 230 vehicles inspected in a four-day period between 4 February 2013 and 8 February 2013, one had wheel stud security issues. When asked whether that suggested a wider problem that needs targeting in relation to wheel security, Mr McArthur commented:

“I know it's only one vehicle out of 230 but there are a lot of vehicles on the road, a lot of heavy vehicles on the road on a daily basis and one in 230, that's quite high

isn't it?---Well, but there is on any given vehicle 100 wheel nuts, so that's 20,000, you know, potentially defective wheel nuts, so it's one in 20,000. So look, I think the truck industry could do better in this respect if that's your question, yes.”¹³

64. He stated that the industry bodies were the major resource in conveying information to drivers and operators and that the authority had undertaken a campaign designed to publicise amongst heavy vehicle drivers and operators the need to ensure proper fastening standards are applied. He acknowledged that relaying of this information depended upon relevant industry bodies and that not all individual operators were members of such bodies. A document published by the Australian Trucking Association provides a comprehensive analysis and guidance to the fitting and fixing of wheels and tyres in heavy vehicles.
65. As VicRoads does not currently publish information to truck drivers when they re-register their vehicles in relation to vehicle maintenance and in particular wheel fastenings, and as owner drivers or smaller contractors may not be a member of any of the larger transport organisations or even a member of the trucking association.
66. The evidence is that VicRoads publishes a document to all Victorian licensed vehicle testers who do roadworthy tests on trucks providing general advice that on spider wheels, appropriate nuts and clamps must be used and there must not be any slippage or excessive run out. It may be useful for this material to be provided upon truck re-registration to all heavy vehicle owners, particularly owner operators.

RECOMMENDATIONS

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

1. That VicRoads examine, in consultation with industry bodies and experts, the appropriateness of current torque guidelines in relation to spider wheel grips designed to be fitted to heavy vehicles.

¹³ Transcript 13 May 2013 at page 45.

2. In view of the roadside inspection regime which has been adopted by VicRoads in relation to heavy vehicles, which includes inspection of wheels and tyre fixing, I make no recommendations as to this matter.
3. In view of the publications which have been produced and disseminated by VicRoads to all licensed heavy vehicle testers in Victoria addressing the fitting and fixing wheels and tyres, I make no recommendations as to this matter.
4. In view of the evidence that it is possible that smaller truck operators may not receive information from industry associations as to wheel safety, I recommend that at re-registration of all heavy vehicles, VicRoads provide information as to the critical nature of adequate wheel inspection and wheel adjustment, with particular emphasis on the spider wheel mechanism.

I direct that a copy of this finding be provided to the following:

The family of Ms Rachel Mead;
VicRoads;
The Victorian Road Transport Association;
The Australian Trucking Association;
The Australian Road Transport Industry Organisation;
The Transport Workers Union of Australia;
The Interested Parties; and
The Investigating Member.

Signature:



CORONER K.M.W PARKINSON
Date: 5 SEPTEMBER 2013

