IN THE CORONERS COURT OF VICTORIA AT MELBOURNE

Court Reference: COR 2012 4352

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2) Section 67 of the Coroners Act 2008

I, AUDREY JAMIESON, Coroner having investigated the death of MICHAEL (MIROSLAV) CICMIL

without holding an inquest:

find that the identity of the deceased was MICHAEL (MIROSLAV) CICMIL born on 6 September 1968 and the death occurred on 14 October 2012 at George Street, Doncaster East 3109

from:

1 (a) EFFECTS OF FIRE AND SMOKE INHALATION

Pursuant to Section 67(2) of the **Coroners Act 2008**, I make these findings with respect to the following circumstances:

- 1. Mr Michael (Miroslav) Cicmil was 44 years of age at the time of his death. He lived alone at 3/36 Windella Quadrant, Doncaster and had two children from a former marriage. His medical history included a shoulder injury from a prior motorcycle crash.
- 2. At approximately 12.20am on 14 October 2012, Michael Cicmil was the sole occupant driving west on George Street, Doncaster, having departed from a friend's home at 26 Polaris Drive Doncaster to his residence. At that time the roads were wet, covered in sheets of water as it was raining heavily.
- 3. Witnesses travelling in an easterly direction along George Street observed Mr Cicmil's vehicle travelling towards them at high speed with the headlights on.

4. Mr Cicmil's vehicle was observed soon after to be out of control, mounting the kerb and colliding with trees in Rieschiecks Reserve, adjacent to George Street. The vehicle quickly caught fire and was engulfed in flames, preventing witnesses from attending to Mr Cicmil. Emergency Services were contacted, attended shortly after and extinguished the fire. Paramedics were unable to provide medical assistance to Mr Cicmil as he was deceased.

INVESTIGATION

- 5. Dr Malcolm Dodd, Forensic Pathologist with the Victorian Institute of Forensic Medicine (VIFM), performed a post mortem examination on the body of Mr Cicmil, reviewed a post mortem CT scan and reviewed the Victorian Police Report of Death, Form 83. Anatomical findings included injuries consistent with the circumstances of the motor vehicle accident. No evidence of immediate trauma or natural occurring disease, including acute cardiac ischaemic change, was identified.
- 6. Toxicological analysis of blood and other bodily fluids retrieved post mortem identified the presence of hydrogen cyanide at a concentration of 1.2mg/L¹ and carbon monoxide at 18% saturation.² Delta-9tetrahydrocannabinol at a concentration of approximately 7ng/mL³ was also detected. Anabolic steroid substances were detected and specimens were sent to the Australian Government's National Measurements Institute for anabolic steroid screening, however a confirmation analysis could not be performed due to insufficient sample volume. No alcohol was detected. Dr Dodd ascribed the cause of Mr Cicmil's death to the effects of fire and smoke inhalation.
- 7. The circumstances of Mr Cicmil's death have been the subject of investigation by Victoria Police. Police obtained statements from Dr Paul Buntine of Box Hill Hospital, various

¹ Hydrogen cyanide is produced from the combustion of organic fuels and plastic products. Levels in excess of 1.0mg/L are considered to be life threatening.

² Carbon monoxide is an odourless, colourless gas produced from the incomplete combustion of organic fuels. It is present in cigarette smoke and in automobile exhaust emissions. Normal concentrations of carbon monoxide in non-smokers living in an urban environment are generally less than 2%. In smokers, concentrations may reach 6%. Levels of carboxyhaemoglobin that exceed 30%, alone, are considered life threatening.

³ Marijuana is the collective term for the dried leaves of the plant Cannabis or an extract of the plant. It is often referred to as "grass". Delta-9-tetrahydrocannabinol (THC) is one of the main psychoactive ingredients of Cannabis. The presence of THC in blood at a concentration in excess of 5ng/mL strongly suggests recent use of cannabis (within a few hours). It is likely that consumption of street doses of cannabis will lead to significant adverse effects on the brain even in regular users, usually up to a few hours after a dose. Chronic and/or long-term use is likely to lead to impairment over a longer period of time and a higher intensity. Persons under the influence of cannabis will experience impaired cognition (reasoning and thought) poor vigilance and impaired reaction times and coordination. Epidemiological studies have shown that recent use of cannabis does increase crash risk when driving motor vehicles.

witnesses, and Mr Cicmil's ex-wife and friend. The Major Collisions Investigation Unit (MCIU) completed a mechanical inspection of Mr Cicmil's vehicle. Contributing factors such as mechanical failure, driver error, driver incapacity and external factors were considered.

- 8. Mr Cicmil's 2007 model Holden HSV GTS Commodore sedan, which he purchased as a new vehicle, was fitted with a V8 engine displacing 6.0 litres and producing 307 kilowatts (kW) of power with 550 Newton metres (Nm) of torque. The vehicle was fitted with a number of standard safety features such as anti-lock braking (ABS), electronic brake force distribution (EBD), stability control (ESP), engine control module (ECM) with front and side air bags for all occupants including a post collision fuel cut-off component and a limited slip differential (LSD). It was considered a high–end Holden product.⁴
- 9. The police investigation determined that George Street is a two-lane carriageway with one lane in each direction. The speed limit along George Street is 60km/h; it has a sealed bitumen surface and runs generally east-west with the road traversing a series of hills. The road is divided by a broken white line and has a continuous edge line on each side of the road. The road is well lit, the streetlights were functional and traffic was light at the time of the collision.
- 10. The investigation indicated that Mr Cicmil was travelling at high speed west on George Street when he lost control of his vehicle, wandered to the far right hand side of the road, striking the gutter, which has cause the vehicle to rotate clockwise on its centre axis. The vehicle has then passed through the concrete bus stop on the northern side of George Street, mounted the gutter and proceeded into the trees, striking several of them and hitting one directly with the frontal aspect of the vehicle. The impact has caused the vehicle to rotate onto its driver side and the frontal damage has ruptured the fuel lines, causing the fire that quickly engulfed the vehicle.
- 11. Standard tyres sizes for the vehicle were 245/35 R 20 95Y (front tyres) and 275/30 R 20 95Y (rear tyres). The brief of evidence did not disclose whether standard tyres were fitted to Michael Cicmil's vehicle. However, Leading Senior Constable (LSC) Perrett, the Victoria

⁴ Research a car on the Carsales website. http://www.carsales.com.au/car-research/
details.aspx?R=71614&__Qpb=1&Cr=4&__Ns=p_Year_String%7C1%7C%7Cp_Make_String%7C0%7C%7Cp_Family_String%7C0&SearchAction=N&__N=2994%204294955531%204294843431%204294265189&silo=1305&seot=1&Nne=15&spotid=235671&__No=30&trecs=69&__sid=141CC65B40BE>. Accessed 20 January 2014

⁵ Automobile catalogue detailed specifications for 2007 model Holden HSV GTS http://www.automobile-catalog.com/auta-details1.php. Accessed 22 January 2014.

- Police Investigating Officer, considered the vehicle's rear tyres to be unroadworthy because of worn tread with less than one millimetre of remaining tread depth.
- 12. LSC Perrett noted that due to the extensive damage to the vehicle, visual inspection could not determine whether the airbags had deployed, or evaluate the effectiveness of the brakes. A statement of expert evidence by MCIU Detective Senior Constable (DSC) Robert Hay calculated a loss of control speed for Mr Cicmil's vehicle at a minimum of 117km/h. DCS Hay attempted to download data from the ECM but was unable to due to extensive fire damage sustained by the module. An undamaged ECM would have provided information regarding the deployment of airbags and fuel cut-off.
- 13. The MCIU identified that Mr Cicmil's vehicle may not have been fitted with any type of fuel cut-off system. Such systems function in the event of a collision, when fuel lines are potentially ruptured by the damages sustained, creating a spray of fuel over a hot engine and exhaust pipes. This creates a greater risk of a fire and continues to pump fuel into the fire until the power to the fuel pump is severed.
- 14. Consultant Emergency Physician Dr Buntine noted that Mr Cicmil had attended the Box Hill Hospital Emergency Department on 4 October 2012 complaining of two episodes of chest pain he had experienced that day. An electrocardiogram and blood tests obtained did not show any abnormalities or evidence of acute cardiac ischaemic changes, however due to his multiple cardiac risk factors (ex-smoker, recent anabolic steroid use, male) it was considered that his pain was possibly cardiac ischaemia. He was administered pain relief and anginine and was kept overnight for observation and further investigation. During this time, he continued to report intermittent mild chest and left arm discomfort, for which additional pain relief and anginine was administered. His blood pressure was noted to drop to 90mmHg systolic following the administration of a dose of morphine and anginine and he was provided with intravenous fluid. His symptoms had completely resolved by the morning of 5 October 2012 and he was discharged with scheduled follow up at outpatient cardiology.
- 15. Mr Cicmil held a full Victoria deriver licence. He had amassed 19 demerit points since possessing this vehicle in 2007, seven of which were current at the time of his death. Most of his demerit points related to excessive speed. In 2010, he had served a period of licence suspension.

16. Mr Cicmil had never expressed suicidal thoughts, however his ex-wife noted recent stressors he experienced prior to his death, including financial stress and stress related to her commencing a new relationship.

CPU Review

17. The Coroners Prevention Unit (CPU)⁶ reviewed the circumstances of Mr Cicmil's death on behalf of the Coroner. The CPU specifically looked at whether any/all new motor vehicles are fitted with fire retardant interiors and/or fuel cut-off systems, and had they been fitted, whether they would have likely prevented Mr Cicmil's death. The CPU also inquired whether these issues have been explored in other coronial matters.

Background: Australian Design Rules

- 18. The Australian Design Rules (ADRs) are the national standards for vehicle safety, anti-theft and emissions. They establish minimum mandatory requirements necessary in order for motor vehicles to be registered and used on Australian roadways.
- 19. Since 1 July 1988, the application of ADRs has been the responsibility of the Australian Government under the *Motor Vehicle Standards Act 1989* (Cth). Any vehicle newly manufactured in Australia, or imported into Australia as a new or second-hand vehicle, is required to meet the ADRs.

Fire retardant materials - Australian standards

20. The ADRs do not specify any requirement for fire retardant materials for installation into vehicle interiors. Senior Vehicle Safety Engineer VicRoads Mr Chris Jones was contacted on this point. Mr Jones confirmed that there is no regulation requiring fire retardant materials for vehicle interiors currently in force in Australia.

⁶ The Coroners Prevention Unit (CPU) was established in 2008 to strengthen the prevention role of the coroner. The unit assists the coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations, as well as assisting in monitoring and evaluating the effectiveness of the recommendations. The CPU comprises a team with training in medicine, nursing, law, public health and the social sciences.

⁷ Commonwealth Department of infrastructure and Regional Development – Third Edition Australian design Rules. http://www.infrastructure.gov.au/roads/motor/design/adr_ online.aspx>. Accessed 25 February 2014.

Fire retardant materials – international standards

- 21. Although Australia has no standards for fire retardant materials, there are standards in place in a number of other jurisdictions. For example, the United Nations Economic Commission for Europe (UNECE) has as a standard Regulation 118, enacted to regulate the use of fire retardant materials in vehicle interiors for vehicles manufactured in countries that are members of the European Community (EU). Regulation 118 is titled *Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles.* 8
- 22. The scope of this standard applies to the burning behaviour, including ignitibility, burning rate and melting behaviour of materials used in the manufacture of motor vehicles and the capacity of those materials to repel fuel or other flammable lubricants. The materials undergo a test applicable to materials installed internally in a vehicle both vertically and horizontally and to insulation materials installed within the engine bay of a vehicle. Materials are considered satisfactory if the burn rate is not more than 100mm/minute. Materials not required to undergo the test are those made of metal or glass.
- 23. Another example is the United States of America (USA), which has Standard No 302⁹ regulating the burn resistance requirements for materials used in the manufacture of the interior compartments of motor vehicles. The USA standard is notable because it applies both to vehicles manufactured and imported into the USA. The provisions of this standard are similar to UNECE Regulation 118.

Fire retardant materials - Holden internal standards

24. Holden were contacted to inquire whether it applies any fire retardant standards despite the lack of a relevant ADR. Holden's Senior Customer Care Specialist, Ms Sharon May, advised that although the ADRs do not specify fire retardant materials to be used in vehicle interiors, Holden does comply with internal General Motors design standards specifying flame propagation criteria. Ms May's advice did not specify what those criteria entailed.

⁸ UNECE Regulation 118 entered into force on 16 October 1995. http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/R118rle.pdf. Accessed 25 February 2014.

Federal Motor Carrier Safety Administration, US Department of Transportation. Standard No302. http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/fmcsr ruletext.aspx?reg =571.302>. Accessed 25 February 2014.

Fuel cut-off systems – Australian standards

25. According to the Third Edition of the ADRs, ADR 17 that related to fuel systems ceased to have effect on 2 August 2005. 10 Mr Chris Jones of VicRoads confirmed that there are no regulations requiring fuel cut-off systems for vehicles currently in force in Australia. However, it was his understanding all new vehicles have some form of fuel cut-off system in place but was unable to specify the nature of such systems.

Fuel cut-off systems – international standards

26. International standards (such as UNECE Regulation 34¹¹ and the US Standard 301)¹² were identified that regulate fuel tank design and fire risk mitigation, however these standards do not specifically mention fuel cut-off systems.

Fuel cut-off systems - Holden internal standards

27. Ms May advised that although the ADRs do not specify fuel cut-off systems to be used in motor vehicles, the Holden HSV GTS in question was fitted with, as a standard feature, a post collision fuel cut-off enabled by the car's ECM.

Other relevant Coronial matters

- 28. A search was conducted of the National Coronial Information System (NCIS), which contains coded and free text data and searchable electronic copies of documents of deaths reported to Coroners in Australia from 1 July 2000 (1 July 2001 for Queensland).
- 29. The NCIS search sought to identify previous fatalities in Victoria from 1 July 2000 to 31 December 2013 where a person died from fire related injuries following a motor vehicle collision on a public roadway in Victoria.
- 30. The NCIS search identified 86 fatalities from 1 January 2000 to 31 December 2013 involving fire related injuries in the setting of a motor vehicle collision.

Third Edition ADRs; ADR 17. http://www.infrastructure.gov.au/roads/motor/design/adr_online.aspx.. Accessed 26 February 2014.

UNECE Regulation 34 entered into force on 16 October 1995. http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/2013/R034r2e.pdf. Accessed 26 February 2014.

Federal Motor Carrier Safety Administration, US Department of Transportation. Standard No301. <a href="http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/f

31. A review of the coronial findings for these 86 fatalities indentified that no comments or recommendations about fuel cut-off systems or fire retardant materials had been made.

RECOMMENDATIONS

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

The three remaining Australian motor vehicle manufacturers (Holden, Toyota and Ford) recently announced their intention to cease local manufacturing operations, although they remain retailers of motor vehicles in Australia. Ford Australia announced that production will cease from October 2016.¹³ Both Holden and Toyota also announced recently that they would likewise cease local production.¹⁴ This is relevant to any consideration of ADRs, as in future, (when all local car manufacturing has ceased) the ADRs will need to be applied to overseas imports.

Mr Cicmil died from burns he sustained when his car caught fire during or immediately after a single motor vehicle collision. His car was fitted with a fuel cut-off system, however because the engine control module was badly damaged, the data regarding engagement of this system could not be downloaded to determine whether it had deployed during the collision. The car he was driving was fitted with materials that met Holden's internal standards for flame propagation; however, enquiries failed to identify what these standards comprised.

There are no current requirements under the Australian Design Rules for a car sold or operated in Australia to be fitted either with a fuel cut-off system or with fire retardant materials. However, there are relevant standards and requirements for fire retardant materials in some other countries where cars are manufactured to be imported into Australia. I note that Holden manufactures their vehicles with safety features that go beyond the requirements of the Australian Design Rules.

Although the circumstances of Mr Cicmil's death did not positively identify any reasonable, evidence-based interventions that may have prevented his death in circumstances where he appears to have disregarded the law, his own safety and the safety of others, a number of prevention opportunities were identified.

Announcements from Ford Australia Thursday 23 May 2013. http://www.ford.com.au/ about/newsroom-result?article=1249024395989>. Accessed 26 February 2014.

Press article 23 February 2014. http://www.news.com.au/finance/thousands-of-office-workers-to-lose-jobs-at-toyota-holden-ford/story-e6frfm1i-1226835343394. Accessed 26 February 2014.

The international examples of the United States of America and the European Union demonstrate that expert bodies have considered the issue of whether the inclusion of fire retardant materials in car interiors increases vehicle safety and have established international standards that reflect an affirmative position.

I therefore **recommend** that the Secretary of the Commonwealth Department of Infrastructure and Regional Development investigate whether the Australian Design Rules should be amended to include a standard for fire retardant materials in interiors of motor vehicles manufactured in or imported into Australia, to reduce the likelihood of death from effects of fire following a motor vehicle collision.

Although Mr Cicmil's vehicle was fitted with a fuel cut-off system, the investigation identified that there is no Australian Standard or regulation requiring this safety feature for vehicles currently in force in Australia. I therefore **recommend** that the Secretary of the Commonwealth Department of Infrastructure and Regional Development investigate whether the Australian Design Rules should be amended to include a standard for fuel cut-off systems in motor vehicles manufactured in or imported into Australia, to reduce the likelihood of death from effects of fire following a motor vehicle collision.

FINDINGS

A number of contributing factors have been identified, such as excessive speed, driving under the influence of an illicit substance, wet conditions and unroadworthy rear tyres, which in combination, I find were likely to have caused or contributed to this motor vehicle collision.

I accept and adopt the medical cause of death as identified by Dr Malcolm Dodd and find that Mr Michael (Miroslav) Cicmil died from the effects of fire and smoke inhalation.

I acknowledge the extensive research and synthesis of data performed by the Coroners Prevention Unit.

Pursuant to section 73(1) of the Coroners Act 2008, I order that the following be published on the internet.

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

Mrs Lilly Simic

Mr Domenic Benvenuto

Dr Yvette Kozielski, Eastern Health

Mr Rowland Legg, Peter Hiscock & Partner Pty Ltd acting on behalf of QBE Insurance (Australia) Limited

Mr Mike Mrdak, Secretary of the Commonwealth Department of Infrastructure and Regional Development

Ms Sharon May, Senior Customer Care Specialist, Holden Australia

Mr Chris Jones, Senior Vehicle Safety Engineer, VicRoads

Leading Senior Constable D Perrett

Signature:

AUDREY JAMIESON CORONER

Date: 3 June 2014