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FINDING OF:	Mr Greg Cavanagh SM
CATCHWORDS:	**Collision at intersection, multiple deaths, Airservices fire truck, emergency services.**

REPRESENTATION:

Counsel Assisting:	Ms Peggy Dwyer
Air Services:	Mr Michael Maurice QC
Jack Norris:	Mr Alan Woodcock

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IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0128,129 & 133/2011

IN THE MATTER OF AN INQUEST INTO THE DEATS OF KEVIN TAYLOR, LENA YALI AND GREGORY McNAMARA

ON 7AUGUST 2011 (KEVIN TAYLOR AND LENA YALI) AND 10 AUGUST 2011(GREG McNAMARA)

AT DARWIN

FINDINGS

Mr Greg Cavanagh SM:

Introduction

1. On the morning of 7 August 2011, a fatal collision occurred between an emergency fire truck owned and operated by Airservices Australia and a Mitsubishi Triton, causing the death of three of those in the Triton, including the driver. Kevin Taylor and Lena Yali died on 7 August shortly after the accident, and Gregory McNamara died on 10 August 2011 at Royal Darwin Hospital. There was one survivor from the Mitsubishi Triton, and none of the three occupants in the Airservices vehicle were harmed.

2. This shocking road fatality has been devastating for the family and friends of the three individuals who died and has profoundly impacted on the driver and crew of the Airservices vehicle involved in the collision, and in fact on the broader Airservices workforce.

3. Pursuant to section 34 of the Coroners Act ("the Act"), I am required to make the following findings:

"(1) A coroner investigating –

(a) a death shall, if possible, find –

(i) the identity of the deceased person;

(ii) the time and place of death;

(iii) the cause of death;

(iv) the particulars needed to register the death under the Births, Deaths and Marriages Registration Act;

(v) any relevant circumstances concerning the death.

4. Section 34(2) of the Act operates to extend my function as follows:

> "A coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated."

5. Additionally, I may make recommendations pursuant to section 35(1), (2) & (3):

> "(1) A coroner may report to the Attorney-General on a death or disaster investigated by the coroner.
>
> (2) A coroner may make recommendations to the Attorney-General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the coroner.
>
> (3) A coroner shall report to the Commissioner of Police and Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have been committed in connection with a death or disaster investigated by the coroner."

6. I am grateful for the thorough brief of evidence that was prepared by Senior Sergeant Deborah Gabolinscy. I note that family members also commented on the care and sensitivity of Sergeant Gabolinscy at the time they learnt of their loved ones deaths.

7. In order to assist me to make my findings, and to fully understand the circumstances of the accident, I had tendered in evidence the following: a four volume brief of evidence which included an overview memorandum from the officer in charge, the report of senior crash investigator Sergeant (Sgt) Mark Casey, and its attachments, numerous witness statements, and relevant policy and procedures relating to emergency services (Exhibit 1); a volume of supplementary materials which includes a number of reports commissioned by Airservices and a detailed statement of Mr Glen Wood, Chief Fire Officer, which came with multiple attachments (Exhibit 2) and the birth certificates of Greg McNamara and Kevin Taylor (Exhibit 3).

8. I heard oral evidence from Paul Gough, John McCluskey and Samuel McKenna-Greaves, civilians who were stationary in their cars near the intersection at the time of the accident. A number of Airservices personnel gave evidence - Craig Cousins, Darwin Fire Station Manager; Richard McCagh and Ashley Williams, officers on the Airservices vehicle involved in the collision; Jack Norris, the driver of the vehicle, and Glen Wood, Chief Fire Officer. As to the nature and cause of the accident, expert evidence was called from Sgt Mark Casey, Senior Crash Investigator, and from Grant Johnson a Consultant Engineer who was retained by Airservices.

9. As will be clear from these findings, this fatal collision that claimed three lives was allowed to occur because of major shortcomings in the policies, operating procedures and training protocols of Airservices Australia. It appears to me that since their main business is to operate at the airport, staff were ill equipped to drive the ultra large fire vehicle in emergency conditions, at speed, with lights and sirens, on a public road. This was completely unacceptable in circumstances where they were required to do so, albeit rarely, as a result of a Memorandum of Understanding with the NT Fire Services. Tragically it took three deaths to expose the failings in their systems.

10. This inquest has benefitted from the full and genuine cooperation of Airservices Australia and those appearing for the organisation. From the early stages of preparation, through to the end of the inquest, Airservices provided the Court with relevant information, including numerous reports that were critical of their action or inaction prior to the fatal collision. That meant that in addition to the report prepared by NT Police Expert, Sgt Mark Casey, I had access to reports prepared on behalf of Airservices, by the following experts:

- Airservices' Safety & Assurance Group (15.12.11)
- Ray Miller, of Ray Millers Pty Ltd, Professional Engineers (15.4.12)
- John Black, Driving Management Australia, re driver training (10.8.12)
- John Killen, Ambulance Visibility (13.3.13) and
- Grant Johnson, Consulting engineers (22.11.12) (together with his supplementary report of 13.5.13)

11. Most of those reports focus not only on the cause of the accident, but also on recommendations as to steps that should be taken by Airservices to minimise the risk of any similar accident. The open and cooperative stance taken by Airservices does them great credit and suggests that reforms will be thorough and lasting and will minimise the risk of a tragedy of this nature occurring in the future.

Background

Airservices Australia

12. Airservices is a government owned corporation established by the Air Services Act 1995 (Cth) and given responsibility for the provision of various aviation-related activities and services in and around Australian

metropolitan and regional airports. It was formed in July 1995 when the Civil Aviation Authority was split into two separate governing bodies: Airservices Australia and the Civil Aviation Safety Authority (CASA).

13. CASA takes charge of safety regulations relating to the licensing of pilots and aviation engineers, and the certification of aircraft and operators.

14. Airservices is responsible for a range of activities, including, but not limited to:

    (a) Providing facilities for the safe navigation of aircraft within Australian administered air space;

    (b) Promoting and fostering civil aviation in Australia and overseas;

    (c) Providing air traffic services, aeronautical information, radio navigation and telecommunications services in line with Australia's international civil aviation obligations and to ensure the safety, regularity and efficiency of air navigation;

    (d) Cooperating with the Australian Transport Safety Bureau in investigating accidents or incidents, and

    (e) The provision of rescue and fire fighting through its Aviation and Rescue Fire Fighting Service (ARFF).

15. It is important to recognise that both CASA and Airservices performs a vital function in the community. It is self evident that Australia needs a sophisticated and highly trained service to ensure that safety standards are met for national and international air travel. Furthermore, in the event of a plane crash, medical emergency or fire at the airport, the community relies on a rapid and skilled emergency response.

16. The Department of Infrastructure and Transport is responsible for ensuring that Australia meets its obligations under the Convention on International Civil Aviation (ICAO or "the Chicago Convention") and it has assigned certain obligations to Airservices to ensure that it can do so.

Rescue Fire Fighting Service (ARFF)

17. ARFF is an approved provider of Aerodrome Rescue and Fire Fighting Services in Australia and its functions are delivered in accordance with the Civil Aviation Safety Regulations 1998 (Cth) (CASR). It is also governed by the requirements of the Air Services Regulations 1995 (Cth), which provides that the functions of ARFF are (Part 4, Division 2, SubReg 4.02(1)):

> (a) to conduct operations to rescue persons and property from an aircraft that, as the result of an incident at, or in the vicinity of, an aerodrome, has crashed or caught fire; and
>
> (b) to conduct operations to control and extinguish, and to protect persons and property threatened by:
>
> (i) a fire at an aerodrome, whether in an aircraft or elsewhere; or
>
> (ii) a fire in the vicinity of an aerodrome that is in, or that started in, an aircraft.

18. The Regualtions state that in carrying out those functions, Airservices must give priority to operations that are conducted:

> (a) at an aerodrome; or
>
> (b) within 100 metres of any boundary of an aerodrome.

19. As set out in the statement of Chief Fire Office Glen Wood, ARFF has 21 stations located at all major metropolitan and regional airports across Australia. In Brisbane and Sydney, which have large airports stretched over a considerable area, there are two fire stations to ensure that vehicles can attend to a fire within the specified response time[1]. I am told that ARFF currently employs 770 staff, and that about 720 of them are operational fire fighters, which reflects the core nature of their business.

[1] ARFF vehicles are required to respond to an aviation incident on any part of the aerodrome movement area (runways, taxiways and aprons) within a maximum of 3 minutes, but preferably 2: s 139H, *Civil Aviation Safety Regulations* 1998 (Cth).

20. In Darwin, fire fighting services have been functioning since the 1950's, and were taken over by Airservices in 1995. A new fire station opened in 1999.

21. As the Chief Fire Officer, Mr Wood outlined a list of the types of incidents that ARFF currently responds to in and around the aerodrome, including:

    (a) aircraft emergencies

    (b) confirmed fires

    (c) fire alarm activations and fire alarm detection system fault conditions;

    (d) motor vehicle accidents;

    (e) first aid incidents;

    (f) hazardous material incidents; and

    (g) any emergency where a fire threat exists

The Rosenbauer Panther MK8 Ultra Light Fire Tender 3 (the Fire Tender)

22. During the inquest there was much discussion about the distinctive size, weight and colour of the enormous lime green fire truck involved in this fatality. Airservices owns and operates 96 Ultra Large Fire Vehicles (ULFV) designed specifically for fire fighting at airports. Its Ultra Large vehicle of choice is the Rosenbauer Panther MK8 Ultra Light Fire Tender 3, referred to henceforth as the "Fire Tender". That vehicle is a 30 tonne behemoth, which can weigh several tonnes more when fully loaded with equipment and crew. It is three meters wide, making it an oversized vehicle that requires a permit to travel on public roads.

23. The Fire Tender has an unusual slopped frontage that is designed to enable it to get as close as possible to an aircraft to extinguish a fire and has obvious advantages in accessing burning aircraft while protecting the fire fighters inside.

24. Although a few of the Ultra large vehicles in the ARFF fleet are still painted a red colour that the public associates with fire fighting vehicles, the vast majority are lime green, and I am told that the whole fleet will be painted green in the future. That colour was chosen because it is supposedly highly visible to the human eye. The only fire fighting vehicles operating at Darwin airport are the same lime green Fire Tenders involved in the fatal collision examined in this inquest.

25. The fire tender is equipped with lights and sirens to denote an emergency vehicle. There are four red rotating halogen lights mounted on the roof and two forward facing red lights on the front. At the time of the accident, there were no blue lights fitted to the vehicle, as there are with standard NT fire engines, because of the need to avoid any confusion with airport signals.

Assistance by ARFF off airport – The MOU

26. In addition to the functions listed above, ARFF offers limited assistance off-airport to aid local State and Territory fire services and Memoranda of Understanding (MOU's) have been signed between ARFF and the fire service in each State and Territory.

27. With respect to the Northern Territory, in April 2010, Airservices and the NT Fire and Rescue Service (NTFRS) entered into a Joint Operational Activities Memorandum of Understanding, a document that commits both parties to assisting each other. Clause 8 is broadly worded and provides that:

> "the Commanding Officer of ARFF will liaise with the Commanding Officer of the NTFRS and will organise the assistance of ARFF to respond to incidents including fires and hazardous material incidents as a supporting agency in the fire district outside Darwin International Airport".

28. The evidence suggests that prior to the tragic collision of August 7 2011, Airservices had never been called on to attend a genuine emergency.

Training, protocols and Procedures

29. It is clear then that the main function of Airservices is to provide a range of services at airports. That is the whole purpose for its existence and it is, understandably, the focus of its protocols and procedures and of the training for personnel. As became evident in this inquest, although the MOU provided for ARFF personnel to drive to an emergency on public roads using their lime green Fire Tender vehicles, Airservices gave very little guidance to drivers with respect to the safety precautions that should be taken for such an important and risky task.

The fire on Wishart Road

30. At around 7.00 am on the morning of 7 August 2011, a fire was reported on Wishart Road at the Wyuna Cold Stores, a large temperature controlled warehouse that provides a range of storage options from dry to -25 degree freezer storage. The cold stores are constructed of corrugated iron roofing with styrene foam cladding and a concrete floor.

31. The NT Fire and Rescue responded to the fire, first with one crew and then by sending backup vehicles and fire fighters. Although it was soon established that there were no persons trapped, the fire was extensive and required the attention of all available resources in Palmerston and Darwin. At some point soon after he arrived at the scene, it became obvious to Nicholas Bell, Watch Commander at the NTFRS, that the resources on site would not be sufficient to manage the incident and, in accordance with the MOU, he put through a request for Airservices to attend.

32. In a statement provided to the inquest Commander Bell gives cogent reasons for calling Airservices to assist and I am satisfied that he was justified in doing so. First, the Airservices Fire Tenders have the ability to "pump and roll" meaning that they are able to squirt water as they move, unlike the standard NTFRS trucks. Second, the Fire Tenders have a large fire fighting foam capacity and the sheer volume of water that can be put on the fire far

exceeds that of standard NT fire trucks. Third, the water sprayed by Fire Tenders is able to project far into a fire, giving it a superior reach. Fourth, the design of the Fire Tenders enables them to drive up close to the incident, while its members inside the cab are protected from toxic smoke.

33. Clearly Airservices would have been able to offer much needed assistance had the crew of the Fire Tender been able to complete their journey. As it happened, the fatal collision they were involved in prevented them attending Wishart Road and in fact, diverted the resources of NTFRS to the scene of the accident. The Wishart Road fire was eventually bought under control in the late afternoon, but such was its magnitude that it continued to burn for a week with small fires in hotspots.

34. Once the request for help reached Airservices, it was actioned in accordance with their protocols. At around 8.25am, Graham Richardson, a station officer with ARFF based at Darwin Airport, took the call from 'Fire Communications' and was informed of the request from NTFRS. He contacted the Senior Commander, Craig Cousins, who in turn sought approval from the Regional Manager based in South Australia. The final approval came from their operations base in Canberra and was filtered back to the staff at the airport. Graham Richardson assigned a crew to attend and advised them to travel "lights and sirens" given the nature of the emergency.

Experienced crew

35. At approximately 8.30 am, three Airservices personnel were dispatched in one of the lime green Fire Tenders. The driver was Jack Norris, an experienced fire fighter who had worked with Airservices for 23 years, starting as a recruit at the age of 21 and working through his Certificates to qualify as a leading firefighter with a Certificate III in firefighting operations. He acknowledged that as the driver, he bore the ultimate responsibility for ensuring the truck proceeded safely, but he relied on his crew to assist him to look out for obstacles.

36. Richard McCagh was the 'operator' in the vehicle and was situated in the passenger seat next to the driver. He was the least experienced of the team, and had been working at Airservices for two and a half years as a qualified firefighter with a Certificate III. The passenger in the vehicle was Ashley Williams, who joined Airservices as a recruit in 2005 and had obtained a Certificate III in fire fighting and a Certificate IV, which enabled him to become a sub-station officer. He was seated on the rear left hand side, behind the passenger seat.

37. The evidence of all crew on board the Fire Tender was that the lights and sirens of the vehicle were activated as they left the airport. The lights came on automatically as they are set up to do, and the sirens were manually turned on by Mr McCagh.

The journey to the intersection

38. The crew of the Fire Tender left the airport and proceeded down Henry Wrigley Avenue to the lights at McMillan's Road. Their vehicle turned right and followed McMillan's Road to the roundabout at Vanderlin Road. I heard evidence that the sirens were turned off momentarily when the vehicle was on McMillan's Road so that the crew could hear an incoming call from the Fire Commander, but they were reactivated before the crew reached the roundabout. They then followed Vanderlin Road, crossed the Stuart Highway and continued down Berrimah Road. It is clear that the route taken required Mr Norris to drive through a number of lights. The crew did not have any clear or consistent memory of whether the Fire Tender had breached any red lights prior to being involved in the collision, which is not surprising given the lack of Airservice protocols as to what they should do in those circumstances.

39. As the Fire Tender continued down hill on Berrimah Road towards the intersection with Tiger Brennan Drive, in an area with a speed limit of 70kilometres per hour, it was likely to be travelling at around 75-80

kilometres. By obtaining CCTV security camera footage from Kormilda College, located approximately 730 meters before the intersection, Police investigators were able to calculate the speed of the vehicle to be 77 kilometres per hour as it passed by the school.

40. When the Fire Tender approached the intersection, it slowed down to some extent, although there was conflicting evidence as to exactly what speed Mr Norris was driving at the time he breached the intersection. The Fire Tender faced a red light, but as far as the crew were concerned, they were in an emergency vehicle exempt from the traffic laws and could breach the light, as long as they observed no obstacles and took reasonable care. In fact, Mr Norris gave evidence that as he approached the intersection, he was not even aware of whether or not he was proceeding through a red light since he had right of way regardless (Transcript, 21.5.13, p 89).

41. Mr Norris could not recall when or how he was instructed by Airservices that drivers could breach road rules and pass through a red light, but he suggested that it was common knowledge amongst staff that they could do so in certain circumstances. He gave evidence as follows:

> Counsel Assisting: And how was it that you learned that in an emergency response as a driver of the Rosen-Bower you could go through a red light with sirens?
>
> Jack Norris: ---It was just common knowledge through our training, you know? We just believed we were.
>
> Counsel Assisting: So do you have any memory of actually being taught that by someone at Airservices
>
> Jack Norris: - - -?---Negative no.

The collision at the intersection with Berrimah Rd and Tiger Brennan Drive

42. The driver and crew of the Fire Tender recounted their observations as they entered the intersection and explained that it was part of their training to look for and verbalise any obstacles in the area. Although all three said that

they saw the Triton at some stage prior to the accident, none of them perceived it as a hazard that they needed to stop or slow down for.

43. Ashley Williams gave evidence that (Transcript, p 36):

> [a]s we were approaching the intersection was getting a strong visual (sic), trying to identify any hazards or any other vehicles within the area. Keeping a verbal discussion with the other occupants of the cabin, make sure that everyone was seeing and if you see anything to notify everyone in the cabin so – before we proceed.

44. Mr Williams could recall that he saw the Mitsubishi Triton as the Fire Tender proceeded down Berrimah Road and he formed the view that it was slowing down and would stop. He gave evidence that, in accordance with his training, he said words to the effect of "there's a grey ute coming from the right and appeared to slow down" (Trans, 20.5.13, p 37). He said that he or someone else may have commented that there were other vehicles stopped at the intersection (p 38) and he recalled saying "clear left" (p 40). Although I do not think that there was anything like that sort of detailed conversation, I accept that Mr Williams communicated to Jack Norris that the path was clear as the Fire Tender drove into the intersection, and he genuinely believed that to be the case.

45. Mr Williams saw the Triton once more immediately before impact and he called out "Jack, Jack" to alert his colleague, but by then it was too late for Mr Norris to avoid the collision.

46. Richard McGagh saw the Mitsubishi Triton about 150-200 meters before the Fire Tender reached the intersection and he too made an assumption that it was slowing down and would stop (Trans, 20.5.13, p 50). He did not recall any conversation about obstacles, but immediately before the collision, he heard Mr Williams call out "Jack, Jack" and around that same time he saw the Triton again.

47. Mr Norris observed a number of vehicles around the intersection and concluded that the only one moving was the Triton. When he first saw it, he thought it was travelling at around 100 kilometres per hour, but on approach to the intersection, he thought the Triton had slowed drastically and would stop. He did not remember anything specific said by his colleagues, but he recalled getting the all clear from them before he proceeded through the intersection (Trans, 21.5.13, p 90). Mr Norris saw the Triton immediately before the accident and although he tried to take evasive action, it was too late to avoid the collision.

48. At around the same time that the Fire Tender breached the red light, Greg McNamara drove into the intersection in his Mitsubishi Triton, heading outbound along Tiger Brennan drive and facing the green light on a stretch of road that is sign posted as 100 kilometres per hour.

49. The only person in that vehicle who appears to have been aware of any danger before the collision was Kevin Taylor, who called out "stop, stop" seconds before the impact. The sole survivor from the vehicle, Phillip Harris, recalled that he "was wondering what the hell he was saying that for, because the lights were green". Their vehicle was hit "an instant after Kevin spoke".

50. The Fire Tender struck the Triton on its left side and trapped the 4WD underneath it, so that both vehicles travelled about 18 meters before coming to a stop in the intersection.

51. The crew of the fire truck, trained as they were in first aid, immediately rendered assistance to the occupants of the Triton and called for assistance from other emergency services. Miraculously, Phillip Harris was able to walk away. Kevin Taylor was pronounced deceased at the scene. Lena Yali could only be freed after the Fire Tender was emptied of its load of water and moved, and she died not long after her arrival at Darwin Hospital, without regaining consciousness. Greg McNamara was taken out of the

vehicle in an unconscious state and although he fought for survival over the next few days, he died on 10 August 2011, without having regained consciousness.

Were the lights and sirens of the Fire Tender activated?

52. The evidence presented satisfies me that the lights and sirens of the Fire Tender were activated, but were not effective in alerting the public that it was an emergency vehicle.

53. Shortly before the Fire Tender breached the intersection, there were four vehicles (excluding the Mitsubishi Triton driven by Greg McNamara) that were at or approaching the intersection. Three were stationary and facing red arrows and the driver of the fourth vehicle, travelling in bound on Tiger Brennan Drive facing the green light, had seen the Fire Tender and stopped shortly before the crash.

54. Although the occupants in each of those cars observed the Fire Tender, the only witnesses who recognised it as an emergency services vehicle were those who had previously worked at the airport or knew someone who had done. This is not surprising since the Fire Tenders are rarely on public roads and there had been little effort made prior to this accident to educate the public about the appearance or role of Airservices vehicles.

55. Most of the witnesses did not hear the sirens, in spite of the fact that some had the windows of their car wound down.

56. I was able to strengthen my understanding of the lights and sirens by participating in a view of the Fire Tender organised by Airservices. The sirens were very loud when I stood beside the vehicle, and I was surprised that they were not audible to drivers, although I clearly accept the overwhelming evidence that they were not. On the other hand, I was surprised that so many drivers stationary at the intersection saw the flashing

red lights on the vehicle, which seemed to me to be barely visible in the sunshine.

57. I am satisfied then that although the lights and sirens of the Airservices Fire Tender were activated, they did not operate effectively to warn drivers like Greg McNamara that the Fire Tender had the right of way and could breach a red light. It is obvious that Airservices is aware of the need to make their vehicles more visible if they are going to continue to drive to emergencies on public roads and I will return to that issue in recommendations.

The speed of the vehicles as they entered the intersection

58. Although it is not possible to state precisely the speed of the Fire Tender immediately before the collision, I have no hesitation in finding that it was going far too fast to pass safely through the intersection.

59. In evidence before this court, the driver and crew of the Fire Tender have given various estimates of the speed of the Fire Tender as it proceeded through the intersection. In his interview with police on 7 August 2011, Mr Norris estimated that he had slowed down to 40-50 kilometres or less shortly before he entered the intersection (Interview, p 25), but by the time he gave evidence he had revised that to "about 30 or 40" (Transcript, 21.5.13, p 88). Mr Williams estimated that the vehicle was travelling between 30-40 kilometres per hour (Transcript, 20.5.13, p 36) and Mr McCagh suggested that the vehicle was travelling between 30-50 kilometres per hour, and he assumed it was towards the 'lower end' of that bracket (Transcript, 20.5.13, p 47).

60. I am of the view that although Mr Norris and his crew gave honest evidence, they have underestimated the speed of their vehicle. I note that after the accident they were interviewed separately in order to ensure the integrity of their evidence, so that they could not be accused of concocting their evidence or "putting their heads together". Nevertheless, I prefer the

evidence of the crash investigator, Sgt Casey, who made a number of scientific calculations based on observations at the scene and CCTV footage in the area and concluded that the Fire Tender was likely to be travelling at a speed of 48 kilometres per hour as it breached the intersection (Crash Analysis Report, Sgt Mark Casey, at p 24).

61. I was disappointed to learn of the error made by police investigators who accidentally overrode the "black box" data on the Fire Tender, which would have recorded the vehicles speed when the brakes were applied prior to impact. The error was made because police did not initially appreciate that the Fire Tender has an 'engine control module' that records hard braking incidents. They were so concerned to carry out the skid testing after the accident that they inadvertently overrode the crucial data. I am told by Sergeant Casey that NT police have learnt the lesson from this incident and a number of his colleagues have since done training in relation to receiving crash data. Written policies and procedures have not yet been adjusted to reflect the lessons learnt and that should be done. While it is fortunate that police had other means to calculate the speed of the Fire Tender in this case, so that it did not seriously compromise the investigation, that information may prove to be crucial in another case.

62. The Mitsubishi Triton driven by Greg McNamara had right of way, facing a green light, in an area where the speed limit was 100 kilometres per hour. Although each of the occupants on the Fire Tender formed the view that the Triton slowed down to some extent as it travelled towards the intersection, I do not think that it did slow down substantially and I am satisfied that it was travelling somewhere between 80-100 kilometres per hour. There are two main reasons for my conclusion. First, Phillip Harris gave cogent, clear evidence that he had no sense of the Triton slowing or stopping prior to the accident, as born out in his comment that he was surprised when Kevin called out "stop, stop" seconds before the accident. Second, although it might be natural to slow down 10-20 kilometres as one heads towards an

intersection, Mr McNamara had the green light and since he clearly did not think the Triton was going to enter the intersection at that time, he had no reason to slow down.

63. Sergeant Mark Casey gave evidence that may explain why the occupants of the Fire Tender mistakenly thought the Triton had slowed down significantly before it entered the intersection. The outbound lane on Tiger Brennan Drive has a gradual curve to the left that straightens out about a 150 metres prior to the intersection. Having conducted traffic duties for many years, Sgt Casey had come to the view that when a vehicle travels around a curve it can have the appearance that it is travelling more quickly than it actually is, and hence there is the potential for a mistaken perception that the same vehicle has slowed down when it comes on to the straight, when in fact it has maintained roughly the same speed.

The cause of the accident

64. Having carefully assessed the evidence of civilian witnesses, as well as police experts and the expert reports provided by Airservices, I am of the view that there are six main causes of the accident.

    (i) First, the unusual shape and colour of the Fire Tender meant that it was not easily identifiable as an emergency services vehicle. The lime green colour may be highly visible, but that is of little use if other drivers do not recognise that a vehicle of **that** colour has right of way and can breach traffic rules.

    (ii) Second, the sirens on the Fire Tender could not be heard by other drivers and the flashing red lights are not always visible during the day time, meaning that it was entirely understandable that Mr McNamara did not appreciate that he was expected to give way to the Fire Tender.

    (iii) Third, the sizeable blind spot on the Fire Tender, created by the driver's side A pillar and the driver's side mirror, mean that the Mitsubishi Triton was probably hidden from Mr Norris's view for significant periods of time before he reached the intersection.

(iv) Fourth, the training for the driver and crew of the Fire Tender was entirely inadequate to equip them to drive on public roads in an emergency situation. It failed, for example, to educate drivers about how to compensate for the right hand blind spot.

(v) Fifth, Airservices failed to have in place any protocol instructing drivers what speed they should slow down to when breaching a red light. That resulted in Mr Norris entering the intersection at too great a speed to properly assess any obstacles or to stop once he had observed one.

(vi) Sixth, the failure of Airservices to adequately train its staff meant that Mr Norris and his crew were all of the view that other drivers would recognise the Fire Tender as an emergency vehicle, and that affected their ability to judge the actions of Mr McNamara.

65. I have given careful thought to the opinion of Sgt Mark Casey, who conducted blind spot mapping with the Fire Tender and came to the conclusion that the Mitsubishi Triton was not likely to be in Mr Norris's blind spot for approximately 4.1 seconds before the collision. His opinion was challenged by Grant Johnson, a consultant engineer specialising in road safety and crash investigation, who gave evidence that there were too many variables related to the speed of the Triton to be able to comfortably say at exactly what stages the blind spot affected Mr Norris's vision. With great respect to Mr Casey, who did an excellent job of investigating and reporting on this accident, I prefer the opinion of Mr Johnston in this one regard. I am of the view that the blind spot, which I observed for myself to be a serious obstruction, was a factor in this accident, in that it must have obscured Mr Norris's vision of the Triton at various points as the two vehicles approached the intersection.

Systemic failures – Training and protocols

66. Clearly there was inadequate training by Airservices as to how the driver and crew should proceed in emergency conditions. This is best illustrated by the exchange between Counsel Assisting (CA) and Jack Norris (JN) (21.5.13, at p 81):

CA: Do you recall having been told or learning in any way how to proceed through an intersection when you had the red light?

JN: ---No….

CA: Was there any training or instruction given to you prior to the accident about what speed it was appropriate to approach a red light?

JN: ---Negative no.

CA: So what did you understand to be the appropriate speed to approach a red light when you were under lights and sirens?

JN: ---Just under a controlled speed.

….

CA: So as far as you were aware, you were just to proceed through a red light, or an intersection with a red light, exercising caution?

JN: ---That's correct, yeah.

CA: And did you receive any guidance as to how to exercise caution?

JN: ---Negative no.

67. It is unacceptable that Airservices did not have training and protocols in place that would give guidance to their employees who were driving an over sized, enormous, 30 tonne truck in extreme conditions, that put them and others at risk. The NT Fire Brigade has guidelines for its drivers so that they can proceed through a red light at a maximum of 20 kilometres per hour under lights and sirens. For police vehicles that are smaller and lighter, the maximum limit is 30 kilometres per hour. It beggars belief then, that Airservices personel were given no speed limit guidelines, in circumstances where they were driving far heavier vehicles that took longer to stop.

68. Similarly, there was a lack of guidance as to how to avoid the blind spots in a vehicle. Again, this was clear from the answers given by Mr Norris to Counsel Assisting (Transcript, at 21.5.13, p 82):

CA: As part of your training about the Rosen-Bower as a vehicle, did you learn about its blind spot?

JN: ---There are blind spots yeah. We weren't actually sort of trained about it, you (inaudible) blind spots they were there.

CA: Okay. So prior to the accident at any stage when you were being trained about the vehicle, did anybody actually tell you about the blind spot within the vehicle?

JN: ---No.

CA: So did you become aware of it just by noticing the blind spot yourself as you were a driver?

JN: ---Exactly.

CA: Did you ever receive any instruction prior to the accident from your employers about what the role was of other people in the vehicle when you were proceedings under lights and sirens to an emergency?

JN: ---No, I wasn't no.

The employees involved

69. As I pointed out earlier, all members of the Airservices crew were experienced and well respected professionals. Jack Norris has been a fire fighter all his adult life and is clearly dedicated to that job. His station officer, Graham Richardson, who has worked with Mr Norris for a number of years and has assessed his driving, writes that "he has never failed under my assessments and I would describe him as being cautious in his driving…."(Statement, par 9). I am satisfied that crew members Ashley Williams and Richard McCagh were highly regarded, fully trained professionals who were making every effort to look out for hazards as Mr Norris drove the Fire Tender to the job on Wishart Road.

70. This incident has been utterly devastating for the Airservices staff involved in the collision and has had a ripple effect on their other employees, particularly those in Darwin. That was best expressed by Jack Norris when

he spoke of the pain he continues to feel as a result of the incident (Transcript, 21.5.13 at p 92). At the conclusion of his evidence, Mr Norris said:

> I joined the services to be trained and giving resources to give life and the environment a second chance. This goes right against what says on my badge. My badge says 'rescue' you know. It's a really nice feeling when you're trained to have to help someone. And I just felt helpless this day. I've met some of the family member and they're so strong. They have been kind. You know this has just gutted me. It's just an emergency services – an emergency personnel's worst nightmare.

71. This accident is not the fault of Jack Norris or his crew. I have no doubt that had Mr Norris been given the appropriate instruction by way of training and protocols, the accident would not have occurred. Had he been trained, for example, to slow down to a speed of 20 kilometres, he and his crew would have had more time to assess the Triton as a hazard and more time to stop to avoid a collision. In failing to address those issues, Airservices has not only let down the community, and particularly the family and friends of those who have died, but also its own employees, who are clearly still deeply affected by this accident.

Legal status of Airservices vehicles at the time of the collisions

72. In the course of the investigation into this accident, it was revealed that although Mr Norris and his colleagues had been instructed by their employer that they were exempt from NT Traffic Regulations if operating "lights and sirens", Airservices had not, in fact, satisfied the appropriate legal formalities and did not have a permit. That situation arose because Airservices mistakenly believed its vehicles and employees were entitled to the automatic exceptions provided for in the relevant legislation.

73. The Australian Road Rules have been adopted under Schedule 3 of the Traffic Regulations NT and this includes an exemption for Emergency vehicles. Reg 306 provides that:

A provision of the Australian Road Rules does not apply to the driver of an emergency vehicle if in the circumstances:

(i) the driver is taking reasonable care, and

(ii) it is reasonable that the rule should not apply, and

(iii) the vehicle is displaying a blue or red flashing light or sounding an alarm.

74. An "emergency vehicle" is defined in a way that means AirServices vehicles and employees were not automatically exempt (unlike police, ambulance and NT Fire and Rescue), and a request for authorisation had to be made to Registrar of Motor Vehicles. When the oversight was discovered after the accident, an unconditional exemption was granted for the Fire Tenders, and the vehicles would obviously have been legally exempt before the accident had Airservices followed the correct procedure.

75. Although the failure to obtain formal exemption before August 2011 did not contribute to the accident, it is not an irrelevant fact. It reflects a general failure to ensure that policies and procedures relating to emergency driving were up to standard and a failure to focus on the issues relating to driving on public roads.

Action by Airservices - reforms to policy, procedure and training

76. There is little doubt that Airservices Australia has responded to this tragedy in a thoughtful, thorough and determined way. The management of that organisation have been humble and willing to admit the mistakes that were made and the need for improvement. The gravity with which they view their task is reflected in the number of excellent and detailed reports commissioned on their behalf and then provided without hesitation to the inquest and interested parties. That suggests to me that the reforms I heard about in this inquest will be fully implemented and that any recommendations I make will be given full consideration.

77. I was grateful for the frank and detailed evidence of Glen Wood, who has been employed by ARFF in various capacities, including as an operational Fire Fighter and Fire Officer, since 1986, and whose management and safety credentials are extremely impressive. In November 2012, he was appointed the Chief Fire Officer (CFO) and his main priority since has been to coordinate Airservices' response to the collision. In written and oral evidence, he outlined the action taken to date, which includes:

(a) **Major changes to driver training.** Airservices commissioned a major review of driver training, completed by John Black of "Driving Management Australia", and has implemented a new training regime based on expert advice. That includes a comprehensive practical driver training course at the Mount Cotton facility in Queensland, which all fire fighters will eventually be processed through.

(b) **Changes to driver protocol for emergency driving**. At the time of the inquest, Airservices staff were subject to an Operational Bulletin requiring them to comply with all road rules and not use lights and sirens when driving on public roads, even when responding to emergencies. This will operate until all staff have completed training at the Mt Cotton Facility, at which time the new "Standard Operating Procedure" covering emergency driving will operate (see below).

(c) **Updated Standard Operating Procedures**. Airservices has drafted a "Standard Operating Procedure" (SOP) that it plans to introduce once a sufficient number of staff have been through the new training programme (Annexure 14, statement of Glen Woods, Supplementary brief). In relation to '**Procedures at traffic lights and stop signs**', the draft SOP reads (Section 7.4):

*When approaching a red light or stop sign, drivers of ARFF vehicles must come to a **COMPLETE STOP** at the entry to the intersection or stop sign and not proceed until it is confirmed safe to continue in accordance with the crew communication procedure explained above at Section 6.8. The vehicle may then proceed through the intersection when it is safe to do so at no more than 15 kilometres/h.*

Section 6.8 is entitled 'Negotiating intersections – crew communication' and reads:

> *When negotiating any intersection regardless of the situation, the driver must not enter the intersection (even if a traffic light shows green) unless he/she has received a verbal confirmation "CLEAR TO PROCEED" from a crew members on the passenger side of the vehicle and the driver has formed the view that it is safe to do so. When travelling in an ARFF vehicle, all crew members have a responsibility to scan the road and immediately alert the driver of any potential hazards.*

(d) **Training the trainers.** Airservices has upgraded the driver training package so that their senior staff can better train their crews.

78. In addition to those reforms, Airservices is considering the advice of experts in relation to the following:

(a) **Changes to the appearance of the Fire Tender to make it more easily recognised as an emergency services vehicle.** Airservices commissioned a report by John Killeen of 'Ambulance Visibility' who was tasked to consider upgrades to the markings, warning lights and sirens fitted to the current Rosenbauer Mark 8 and Mark 9 aviaton fire vehicles. Although he is of the opinion that the current Mark 8/9 "Hiviz" flourescent base colour and reflective markings are "state of the art by world standards", he suggests possibly widening several sections within the perimeter strips. As I have commented earlier, I accept that the colour lime green is high visibility and recommended as an international standard, but it is dangerous on the public roads if it cannot be recognised as denoting an emergency vehicle.

(b) Changing the position of the rotating Hella warning beacons, to make them more visible to drivers on public roads.

(c) The addition of steady burn amber warning lights to increase the conspicuity of the vehicle both on and off airport roads, and red/blue flashing lights to be mounted just below the side rooflines and at roofline and waistline levels front and rear, that could be illuminated during an urban response.

(d) Reviewing the current siren layout to determine if there is a way to make them more audible for civilian drivers, for example by adding Rumbler or air horns.

(e) The installation of warning signs on airport roads and nearby areas as part of a campiagn to educate the public about ARFF vehicles.

Legacy of those who died

79. As a result of this collision, Australia has lost three brilliant professionals who contributed an enormous amount to architecture and landscape architecture in this country. It was very moving to hear their family and friends speak of them towards the end of the inquest. As Counsel Assisting said in her opening, the deaths of Kevin, Lena and Greg have attracted much media attention, not just because of the tragic way in which they died, but because of the dynamic people they were and how much of a loss they are to our community.

80. Kevin Taylor was born in South Australia and was the youngest in a family of three. He studied architecture at the SA Institute of technology and received a course medal for his thesis. He later moved to Melbourne and spent time teaching at RMIT. From his first marriage he has two adult children, Danae and Emily. Kevin was partner in an award winning landscape architecture and urban design firm, Taylor, Cullity Lethlean. Both his eldest daughter, Danae, and his wife, Kate Cullity, spoke very eloquently about Kevin in this Court and I was told that despite all his professional achievements, he remained humble, down to earth and kind.

81. Lena Yali and Greg McNamara were the award winning team behind the Darwin office of Troppo Architects. They fostered a unique style of local architecture which focused on building houses that are environmentally sound and blend in with the unique Territory environment. Lena's brother, Danilo Yali, spoke of his sister's passion, her big heart and her drive to

better herself and society. Lena and Greg were the parents of two children who are still school age and they are both from large, loving families.

82. Phil Harris, the sole survivor of the accident, spoke very beautifully about each of his three friends who lost their lives. The coronial brief includes a story that was written by Mr Harris and published in the newspaper. It is worth setting out some of his words here, because they express so well the calibre of his friends[2]:

> Three of the most passionate, gentle and talented people I knew have suddenly gone. .. Our practice has learnt from Aboriginal people of this place that we know as the Top End, that we, in our brief times here, are also our past and out future; and that our time here is also entrinsically entwined with the things that grow, swim, crawl and fly, and the waters and earth that supports them. And this entwines with the human community around us. If we understand this and open up to it, the intricate wonder that is this natrual and human environment will not only nurture us, but greatly enrich us.
>
> Greg and Lena and Kevin all shared this heightened sense of place and our place in it, what Big Bill Neidje (Kakadu Man) would call "feeling". It was evident in their work and through the depth of their community involvement. This understanding survives Greg, Lena and Kevin.

Concluding remarks

83. During the course of the inquest I heard evidence from a number of family members about the distress they experienced when viewing their loved ones at the morgue attached to Darwin Hospital. As I explained during the inquest, the morgue facilities are not under the control of the Coroner, and I am conscious that the Department of Health was not represented at the inquest and could not comment on the facilities available. However this case underscores again the need for a counsellor to be available to assist families who are dealing with a tragedy and who may have to confront practical concerns like identifying their loved ones and making arrangements with the

[2] *Life Awakened in Tragedy of Death*, NT News, 11 August 2011

Coroner's office, and well as their own private grief. I intend to pass on the concerns expressed by family members to the Department of Health, and I will make yet another recommendation to the Government regarding a grief counsellor for this court.

84. A legacy of this inquest and the sad deaths of three members of our community is that Airservices around Australia have improved safety procedures to minimise the risk that anyone else will lose their life in these circumstances. As Mr Maurice QC commented in his closing submissions, Airservices provides an essential service in accordance with Australia's international obligations. Its staff are highly trained in first aid and rescue and they perform a vital role in making air travel safe and in saving the lives of those who have a medical emergency at the airport. It is indeed tragic that they were involved in an incident where lives were lost, and I am confident that the organisation will do everything possible to improve their off-airport safety procedures, so that they may continue to offer their fire fighting skills in our community.

Formal Findings

85. I find that Gregory McNamara died on 10 August 2011, at approximately 10.40 pm in Darwin, as a result of severe skull fractures and traumatic brain injury sustained in a collision between a vehicle he was driving and an Airservices Fire truck.

86. I find that Lena Yali died on 7 August 2011, at approximately 1.00 am, in Darwin, as a result of multiple injuries sustained in a collision between a vehicle she was a passenger in and an Airservices Fire truck.

87. I find that Kevin Taylor died on 7 August 2011, at approximately 9.00 am, in Darwin, as a result of severe head trauma sustained in a collision between a vehicle he was a passenger in and an Airservices Fire truck.

Recommendations

To the NT Department for Roads/Department of Infrastructure

88. That the Department reduce the speed limit for vehicles travelling on Tiger Brennan drive in the area near the approach to the Berrimah Road intersection, from 100 kilometres per hour to 80 kilometres, near the approach to the intersection.

To Airservices Australia

89. That changes be made to the appearance of the lime green Mark-8/9 Fire Tender vehicles to ensure that they are more obvious as emergency services vehicles, for example, by the addition of a red band across the middle of the vehicle.

90. That Airservices initiate an education campaign to alert members of the public that their Fire Tenders are emergency services vehicles exempt from Traffic Regulations if operating “Lights and Sirens”.

91. That the proposed changes to the ARFF “Standard Operating Procedure” currently set out in the draft that appears as appendix 14 to the statement of Glen Wood are introduced as soon as Airservices resume the policy of responding to emergencies with “lights and sirens”, in particular with regard to the proposed policy setting a speed limit for drivers proceeding through red lights.

92. That when driving “lights and sirens” outside the airport boundary, a passenger be positioned in the seat behind the driver to assist them to identify obstacles caught in the right blind spot.

To the Government of the Northern Territory

93. That resources be allocated for a dedicated grief counsellor available to assist the office of the NT Coroner.

Dated this 20th day of June 2013.

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GREG CAVANAGH
TERRITORY CORONER