IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2012 005467

FINDING INTO DEATH WITHOUT INQUEST

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

I, JUDGE IAN L GRAY, State Coroner, having investigated the death of MUHAMMAD MOHSIN AZAM
without holding an inquest:

find that the identity of the deceased was MUHAMMAD MOHSIN AZAM
born on 6 April 1986
and that the death occurred on 23 December 2012
at 4596 Bridgewater-Maldon Road, Bridgewater Victoria 3516
from:

I (a) HEAD INJURY.

Pursuant to section 67(1) of the **Coroners Act 2008** there is a public interest to be served in making findings with respect to **the following circumstances:**

1. Mr Azam was a 26-year-old married man who lived in Epping with his wife, Ms Najeea Ali, and was an engineering student who worked part-time in security.

2. Ms Ali stated that Mr Azam did not have any significant medical history, and did not have any medical complaints leading up to his death.

3. On the weekend of 15 and 16 December 2012, Mr Azam undertook his first skydiving training in Bridgewater with the Australian Skydive Centre. This involved two days of training with authorised instructors, eight hours of classroom theory and an examination. Mr Azam was assessed as competent after passing all aspects of the training, however due to inclement weather, he was unable to complete his first solo jump that weekend.

4. Mr Ralph Hamilton-Presgrave, the Director and Chief Instructor at the Australian Skydive Centre, stated that during training, instructors regularly ask if there is *any* (witness' emphasis) medical condition that they need to be aware of, and that participants also sign an

indemnity form at the beginning of the training which includes a medical declaration. Mr Azam did not declare any medical condition.

5. Mr Azam returned to Bridgewater to undertake his first solo dive on Sunday 23 December 2012. He underwent refresher training prior to jumping to ensure that he was suitable to skydive, which proceeded successfully.

6. The plane left with skydivers at around 10.00am on 23 December. Around ten instructors and participants were in the plane. Witnesses state that the weather was fine and sunny, with only five to ten knots of wind. Instructors stated that Mr Azam exited the plane correctly and deployed his parachute at the appropriate height without complications, and was communicating via radio with instructor Mr Aaron Nuttall, and then with instructor Mr William Rac once he landed. Mr Hamilton-Presgrave exited the plane shortly after Mr Azam with a tandem passenger, and stated that Mr Azam appeared to be in full control of his canopy, making turns. Mr Hamilton-Presgrave had a video camera fitted to his helmet, which recorded parts of the jump.

7. Mr Rac stated that when he took over the radio, Mr Azam was not responding to him. He asked Mr Azam to perform a 90-degree turn, which he did. Mr Rac then asked him to perform a further turn, which he again did. Mr Rac stated that Mr Azam then turned and faced away from the landing zone, and stopped responding to instructions. Other witnesses state that he appeared to 'go limp'. Mr Azam was at around 1,000 feet from the ground at this point. Mr Rac continued to attempt to communicate with Mr Azam but was unable to do so. He then travelled by car in the direction that Mr Azam was descending, with another diver accompanying him.

8. Mr Azam was found approximately 1.5 kilometres away from the landing site, near a wire fence on a rural property. He was lying on his left side and was unresponsive, with no pulse. Some discolouration was observed on one arm, his helmet was lying nearby and his nose appeared to be broken. Mr Rac returned to the Skydive Centre and alerted Mr Hamilton-Presgrave, who called 000.

9. Mr Rac returned to Mr Azam and awaited emergency services. Paramedics arrived shortly afterwards and confirmed that Mr Azam was deceased.

Medical Examiner's Report

10. An autopsy of Mr Azam's body and post mortem CT scanning (PMCT) were performed by Deputy Director of the Victorian Institute of Forensic Medicine, Associate Professor David

Ranson, which revealed the cause of his death to be *head injury*.[1] Post mortem toxicological analysis did not reveal the presence of ethanol (alcohol) or any other drugs or poisons.

11. A/Prof Ranson stated that the autopsy revealed evidence of patchy subarachnoid haemorrhage associated with cortical contusions. Examination of the heart revealed no evidence of significant macroscopic coronary artery disease, and no evidence of myocardial fibrosis.

12. A/Prof Ranson concluded that Mr Azam's death was due to the head injury he sustained that was associated with the parachute jump. A/Prof Ranson further stated:

> *I am unable on a pathological basis to say unequivocally when the head injury occurred. Clearly it could have occurred on landing however, given the circumstances reported to me, that there was loss of communication with him during descent and the report in the police circumstantial report that he appeared to go limp and lose control of his parachute, it could be that he suffered some rapid head movement event leading to intracranial trauma as he left the plane or during descent (perhaps associated with his parachute opening).*
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> *The presence of cortical contusions indicates a period of circulatory pressure following the injury which could suggest that cardiac function was present when the head injury occurred although if the head injury occurred on landing and cardiac function had stopped some seconds earlier there may have still been enough blood pressure to cause cortical contusions to form following the head injury.*
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> *The reason for his apparent loss of responsiveness during descent is not clear and raises the possibility of an inheritable cardiac rhythm disturbance however this is uncertain and it could be that he suffered a syncope episode with subsequent head injury on landing that is not related to any occult cardiac pathology.*

Report of the Victorian Tasmanian Parachute Council

13. Mr Paul Murphy, Area Safety Officer of the Victorian Tasmanian Parachute Council, provided an expert opinion on the circumstances surrounding Mr Azam's death. Mr Murphy advised that he is an experienced parachutist, and has attended and investigated numerous fatalities and serious incidents.

14. Mr Murphy stated that the weather on 23 December 2012 was ideal for students, and that he examined the video footage of Mr Azam's exit from the plane and found that it was not unusual. Mr Murphy also noted the statements of other instructors that the free fall component of Mr Azam's jump went to plan, and that there were no apparent irregularities with the opening of his parachute.

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[1] Report of Associate Professor David Ranson dated 30 April 2013.

15. Mr Murphy also noted conflicting witness statements regarding the time that Mr Azam stopped responding to radio instructions. Some witnesses observed that his hands were by his sides and not in the steering toggles, but others stated that his hands were still in the toggles. However, the consistent statements were that Mr Azam failed to perform any further steering or direction manoeuvres.

16. Mr Murphy stated that the available evidence indicated that Mr Azam landed at full speed. He noted that the helmet Mr Azam was wearing was typical of what is used for students in Australia and worldwide, and was compliant with the relevant Australian Parachute Federation Operational Regulation.[2] Mr Murphy noted that the chinstrap connector failed on the descent and Mr Azam's helmet came off as he landed, but formed the view that the helmet was in a serviceable condition prior to the descent and that the connector failed upon impact. Mr Murphy inspected the equipment used by Mr Azam and found no issues with its condition or the fit of the harness.

17. Regarding A/Prof Ranson's report, Mr Murphy considered other possibilities of where the head injury could have taken place, and formed the view that the injury could not have occurred during the exit, freefall or parachute opening.

18. Mr Murphy's conclusion was that the cause of the accident was unknown, and that the circumstances indicated that Mr Azam's jump was uneventful until its later stages. Mr Murphy found no indicators of any physical event during the freefall component of the jump, exit or opening of the parachute. He found that the incident could not have been attributed to the equipment, and that Mr Azam was initially able to complete some turns as directed. Mr Murphy noted no defensive injuries to the hands, leading him to believe that Mr Azam was not responsive and/or unconscious upon landing. Mr Murphy formed the view that Mr Azam experienced a medical episode or loss of consciousness during the later stage of the flight.

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[2] *Regulation 8.3 – Rigid Helmets:*

(a) With the exception of tandem students, parachutists who do not hold a Certificate 'C' or higher must wear a hard shell helmet on all descents

(b) Parachutists who hold a Certificate 'C' or higher may, at the discretion of the [Drop Zone Safety Officer], be allowed to make a descent without a helmet.

Assessment of helmet worn by Mr Azam

19. Senior Forensic Engineer Ms Tia Gaffney was engaged to provide an assessment and report on the helmet worn by Mr Azam. Ms Gaffney inspected the helmet and reviewed the available material and background information.

20. Ms Gaffney advised that the helmet was designed to meet the water sport standard only, and was not appropriate for use in a skydiving activity. Ms Gaffney explained that the impact requirements for the airborne sports standard are significantly more robust and relevant than the water sport standard.

21. Based on the damage observed to the helmet, Ms Gaffney was of the view that Mr Azam's helmeted head most likely impacted the ground after he landed on his feet and his body pivoted forward about his feet as they were tripped by the ground surface.

22. Ms Gaffney was of the opinion that the lack of damage to Mr Azam's helmet was indicative of poor helmet design, that the thick, rigid outer plastic shell would not have fractured in an impact wherein Mr Azam landed feet first and pivoted onto his head, and that that the thin, soft interior padding would have provided little impact attenuation. Further, Ms Gaffney opined that the chinstrap was likely fatigued from repetitive use, explaining why it failed.

23. Ms Gaffney stated that in her opinion, an impact of this nature would have been *statistically survivable* if Mr Azam had been wearing a helmet designed for skydiving, bicycling or skateboarding instead of one designed for water sports.

24. Regarding the available video footage, Ms Gaffney commented that several employees and patrons departed the aircraft without one, and she stated that *wearing a helmet during a skydive jump is optional*. She noted some skydivers wearing robust, full-face helmets, whilst others wore helmets of a different design to that of Mr Azam.

25. Ms Gaffney made two recommendations, based on the analysis conducted:

    - The requirement that a helmet be worn during any skydiving activity should be mandated in the State of Victoria.
    - The helmets worn for skydiving activities should be required to comply with a robust design standard (e.g. EN 966 or preferably a newly mandated Australian Standard for skydiving helmets).

Conclusion

26. The evidence available to me does not support a finding that any want of care on the part of the Australian Skydive Centre caused or contributed to Mr Azam's death. For reasons that remain unknown, Mr Azam failed to respond to flight instructions during the later stages of his descent. Some witnesses observed that he went limp and appeared unconscious.

27. The possibility that Mr Azam suffered some rapid head movement event leading to intracranial trauma as he left the plane or during descent, as identified by A/Prof Ranson, remains open, as does the possibility that Mr Azam's cardiac function had stopped some seconds before his landing. Finally, the possibility that Mr Azam's loss of responsiveness was due to either an inheritable cardiac rhythm disturbance, or a syncope episode with subsequent head injury on landing, remains open.

28. I accept Ms Gaffney's comment in her report that the safety benefits of mandated helmet use are well documented. The assessment and report provided by Ms Gaffney raises the argument that a more robust helmet, designed with rigorous impact protections tests, should be used for skydiving activities in order to afford better protection to skydivers, and I will recommend accordingly.

29. The helmet worn by Mr Azam is compliant with the relevant industry regulation (which states that with the exception of tandem students, parachutists who do not hold a Certificate 'C' or higher must wear a hard shell helmet on all descents). However, I question whether the current regulation adequately promotes safety for skydivers because it does not mandate the wearing of helmets for all parachutists, and only mandates the wearing of a *hard shell helmet* without specifying any design standard.

Findings pursuant to section 67 of the *Coroners Act 2008*

30. I find that:

- the identity of the deceased was Muhammad Mohsin Azam; and
- Mr Azam died from head injury, on 23 December 2012, at 4596 Bridgewater-Maldon Road, Bridgewater Victoria 3516, in the circumstances described above.

RECOMMENDATIONS

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

31. I recommend that the Victorian Tasmanian Parachute Council and the Australian Parachute Federation give formal consideration to adopting Ms Gaffney's recommendations that:

    - a helmet be required to be worn during any skydiving activity in Victoria; and
    - the helmet worn for skydiving activities must comply with a robust design standard (e.g. EN 966 or a newly mandated Australian Standard for skydiving helmets).

I convey my sincerest condolences to Mr Azam's family and friends.

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

Mr Michael Tibbitts, Area Safety Officer, Victorian Tasmanian Parachute Council Inc.
Mr David Smith, President, Australian Parachute Federation
Ms Najeea Ali, Senior Next of Kin
L/S/C Michael Balazs, Victoria Police, Coroner's Investigator.

Signature:

JUDGE IAN L GRAY
STATE CORONER
Date: 6/2/15