IN THE CORONERS COURT
OF VICTORIA
AT SHEPPARTON

Court Reference: COR 2010 004553

FINDING INTO DEATH WITH INQUEST

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

Inquest into the Death of JOHN SHANE CROSS

Delivered On:	5th October 2012
Delivered At:	Shepparton Law Courts 14 High Street Shepparton, Victoria 3630
Hearing Dates:	11th September 2012
Findings of:	John Martin Murphy, Coroner
Coroner's Assistant	S/C Penny Lawler

I, John Martin Murphy, Coroner, having investigated the death of JOHN SHANE CROSS

AND having held an inquest in relation to this death on 11 September 2012

at Cobram Coroners Court

find that the identity of the deceased was JOHN SHANE CROSS

born on 25 November 1965

and the death occurred On 28 November 2010

en route from Yarrawonga to Melbourne

from:

1a HEAD AND NECK INJURIES POST HIGH SPEED MOTOR BOAT\tACCIDENT

in the following circumstances:

The deceased Mr John Shane Cross was a very experience racing boat driver, especially in the "Unlimited Displacement Class". There was a U.I.M World Grand Prix Hydoplane Championship sanctioned by the Australian Power Boat Association (APBA), held at Lake Mulwala on the weekend of the 25th-28th November 2010 inclusive. Mr Cross was the driver of a boat called "RIVAL" which was owned by Mr John Bakker and raced in the "Unlimited Displacement Class", that is the engine capacity is unlimited. The boat was a 6.3 metre fibre glass vessil specially made for racing. It was powered by a V8 supercharged engine. The boats mechanic was Mr Terry Hamilton.

It is important to note from the outset that Mr Cross, Mr Bakker, Mr Hamilton and indeed the APBA were always professional in their approach to racing and safety. It is clear the APBA is proactive in improving any safety issues that may arise from races, as they have been in this case, by amending their rules after their own investigations.

The focus on preparation, safety and security issues are highlighted by the testing of the vehicle by Mr Cross at Yarrawonga prior to any racing in consultation with Mr Bakker and Mr Hamilton. It was a team effort and if one of the team was not happy with the safety and performance of the boat then it did not race.

On Sunday 28th November 2010 during a race Mr Cross was in pole position. At the first corner Mr Cross was flung from the operation seat which caused him to drop to last position of five boats. This was probably due to excessive speed of the boat at the corner. If any mishap like this occurs in the future that boat is out of the race. This is an example of the pro-activity of the APBA.

After the mishap at the first corner Mr Cross waited for the other boats to clear and he then resumed his position in the drivers seat and resumed racing. He gained on another boat and was in third position and attempted to gain on the second boat. Upon rounding the second corner Mr Cross' boat "prop walked" where the propeller was out of the water. The owner of the boat Mr Bakker stated he was airborne in the boat on 3 or 4 occasions. He stated that this should not occur due to the undue load you are placing on the propeller and he further stated "you have to be able to control that power". I am satisfied the boat was travelling at this stage at high speeds, in the vicinity of 190kph.

The question to be answered at this point is "where is all the pressure" and the answer clearly is "on the propeller blades". Indeed the manufacturer of the propeller advise you not to "prop walk". When Mr Cross was approaching the finish line the boat suddenly dips then turns onto its port side ejecting Mr Cross. The boat chute did not deploy sufficiently causing Mr Cross to cart wheel head first across the water surface where his helmet was ripped off. Volunteer emergency services people were on the scene within seconds. Mr Cross was administered first aid, conveyed to the shore for further treatment then to Yarrawonga Hospital and due to the serious nature of his injuries he was air lifted by ambulance where he died en-route.

The boats motec data indicated at the time of the incident the boat was travelling at 193.1kph. The boat was extensively damaged and there was a missing blade from the propeller. I am satisfied this blade has broken due to extreme pressure put on it while the boat was "prop walking". I am satisfied it did not hit a submerged object in the water.

There are three main issues to be considered:

1. The propeller.
2. The chute jacket.
3. The issue of reinforced cockpits/capsules.

1. Propeller

Mr Bakker purchases propellers from the supplier, usually three at a time, and he stated if there is the slightest issue with them, they are replaced immediately. For Example, if the propeller gets a knock whilst loading, it is replaced. The propeller in question was eleven races old. When the safety checks are done prior to racing the race scrutineers conduct a comprehensive check involving approximately 50-60 items.

Mr Barry Gartner, an expert metallurgist, used microscopic equipment to observe fatigue cracks in the propeller blade at the point where it sheared off. He indicated there was a weld at the narrow end of the blade where the cracks may have formed from. He expressed a concern about the heat treatment he observed during hardness testing. He stated he could not say whether the weld was done during manufacturing or as a repair.

I accept the evidence of Mr Bakker, the owner of the motor boat, that it was not done as a repair. I am satisfied it is part of the manufacturing process. I am satisfied there were no issues with the propeller prior to racing and all safety checks had been carried out. I am satisfied that given the relatively new age of the propeller it was in proper working order. There is no evidence to suggest a manufacture fault, if this were the case it could be expected that other racing boats would have had similar issue as the supplier is used widely. I am satisfied it was the extreme pressure put on the propeller due to the nature of the racing that caused it to shear off.

2. Chute jacket

These jackets are worn as a type of harness by the boat driver. They are designed to inflate when the driver is ejected. The chute catches the air on water to help the wearer when landing. In this case the chute was not able to catch any air and therefore was of no assistance. It is more useful in the case where the racing is in straight lines and the ejection is more vertical. In this case Mr Cross was ejected sideways of a speed in excess of 190kph and the nature of the ejection didn't allow the chute to operate as designed. It appears that all of the safety equipment would not have prevented the death of Mr Cross in the circumstances in any event. Seatbelts are not an option in open cabin vessels as they could be considered unsafe.

3. Reinforced cockpits/closed capsules

The type of vessel used by Mr Cross was an open cabin. It is believed by some drivers that the closed capsules restrict vision in circuit type racing. It was also suggested in the evidence that an incident occurred in Mildura where a capsule boat over turned and the capsule disintegrated. The capsule is designed more in line with U.S.A racing, where the courses are man made with regulated depths, where the boat can be seen from the surface as it comes to rest. In Australia the races are held in muddy waters and the ocean with the waters varying in depth. Lake Mulwala is said to be 8 metres deep in parts. If a capsule sunk in this water it would be extremely difficult to recover and could pose a serious risk to drivers. The APBA have since this incident, changed their rules for this class of racing and all vessels built after 1990 must now have a capsule attached or else they will be prower restricted. It is unknown what effect this will have in future races.

I am satisfied Mr Cross died from the injuries he suffered in this incident. It must be remembered Mr Cross was right at the top of the tree in his sport, which involved risks. He was one of the best and will be sadly missed by all in the sport.

COMMENTS

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

The Australian Power Boat Association in my opinion are experts in their field and are well equipped and qualified to look at issues involving:

1. Propellers and the method of testing for fatigue issues.
2. Whether cockpits should be used in this type of racing. It is my view on the evidence as L/S/C Tanian stated "they are not the answer". No doubt the APBA will look at this issue.

I further note by way of comment that other sporting bodies where safety is a priority, could learn from the manner the APBA conduct themselves and I refer to their rules in place.

Signature:

John Martin Murphy

Coroner

Date: 5 October 2012