



MAGISTRATES COURT of TASMANIA

CORONIAL DIVISION



Record of Investigation into Death (without inquest)

*Coroners Act 1995
Coroners Rules 2006
Rule 11*

(These findings have been de-identified in relation to the name of the deceased, family, friends and others by direction of the Coroner pursuant to S.57(1)(c) of the Coroners Act 1995.)

I, Stephen Raymond Carey, Coroner, having investigated the death of Mr B

Find That:

- (a) The identity of the deceased is Mr B;
- (b) Mr B died in the circumstances described in this finding;
- (c) Mr B died on 21 August 2014 in Southern Tasmania;
- (d) Mr B died as a result of drowning, possibly after suffering a cardiac event (e.g. cardiac arrhythmia) causing him to fall into the water;
- (e) Mr B was born in Tasmania and was aged 75 years at the time of his death; he was a married man who was retired; and
- (f) No person contributed to the cause of Mr B's death.

Background:

At about 7:00am on 21 August 2014, Mr B left his home in Hobart with the intention to fish on the Derwent River. Mr B was the owner of and intended to use his boat which was an open rigid inflatable design dinghy with the lower part of the hull constructed as a rigid unit and the top sides (inflatable hull) providing the intended shape, buoyancy, stability and integrity of the boat. The boat was manufactured in 2010 and was fitted with a 2 stroke 15hp Yamaha outboard. The boat was 3.3m in length. Mr B has launched his boat at the Millbrook Rise boat ramp near New Norfolk and then proceeded to travel down river towards the motor speed boat club area approximately 6km south of the launch point. He was wearing his Stormy Seas inflatable personal flotation device and was observed to be engaged in fishing.

At about 9:50am Mr B telephoned a friend, Mr M. He told Mr M that he was located near the motor speed boat club area, that he had caught one fish and that it was "*bloody cold*". Arrangements were made for Mr B to have lunch with Mr M at his home in New Norfolk. Mr B was observed near the motor speed boat club by Mr C shortly before 10:30am; he was travelling at speed in a northerly direction towards the Norske Skog factory. At about

10:35am he was again observed by Mr C trolling for fish, travelling slowly in a northerly direction near the area known locally as the "Gun Club" which is approximately 2.7km south of where Mr B launched his boat. At this time he was observed to be fishing and was seated on the side pontoon near the rear of the boat.

Shortly after this, Mr B's boat was sighted travelling in circles at speed on the river near the Norske Skog factory. This observation was made by Mr MW who had launched his own boat at about that time from the opposite side of the river opposite the Norske Skog factory. He observed a boat doing circles and it appeared that there was no-one in the boat. He asked his partner, Ms CS, who was in the boat with him to call emergency services whilst they headed towards the circling boat. He then saw what appeared to be a red life jacket in the water and eventually made the determination that it was a person lying face down in the water. He manoeuvred his vessel close to this person then turned the person over, noting he was blue in the face, and attempted to pull him on board his dinghy but the person was too heavy. He therefore lifted his head from the water and motored towards the shore at the Norske Skog factory whilst both he and Ms CS were yelling at people on the shore to help. When they got to shore, persons located at that area helped to get the male person onto the shore and CPR was immediately commenced by two male persons who were at that location.

Ambulance and police personnel arrived at the scene. Constable Kevin Smith from Tasmania Police was first to arrive at the scene, arriving at 10:55am. He assisted the male persons carrying out CPR. This continued until the arrival of personnel from Tasmanian Ambulance Service who assessed Mr B as being deceased and CPR endeavours were discontinued.

The police investigation that followed determined that:

- The PFD being worn by Mr B had not been inflated. The pocket containing the CO₂ activation device was partially open. The cylinder containing the CO₂ gas used to fill the bladder of the PFD was loose in its mountings. It was determined that the cartridge had only been screwed into the device by three and a half turns. A search of the records of Stormy Inflatable PFD Technologies, the manufacturer of the PFD, determined that Mr B's PFD had never been serviced since its manufacture in 2001. Testing conducted indicated that the CO₂ gas cylinder would not have discharged in the position it was found on Mr B's jacket. There was no indication that any attempt had been made by Mr B to activate his PFD. Although the pocket flap which activates the mechanism was partly opened it was considered that this occurred as a result of Mr B falling into the water at speed. I am satisfied that Mr B did not attempt to inflate his PFD however it is highly likely that if he had so attempted the device would not have activated as designed due to the CO₂ cylinder not being fully screwed into the appropriate mechanism. I am satisfied that the cylinder is likely to have become loosened over a period of time and this has not been identified by Mr B.
- Mr B's boat was recovered and an inspection conducted by Mr G Alway, Manager, Commercial Vessel Operations for Marine and Safety Tasmania. This concluded that both the boat and motor were in a good condition and all required safety equipment was carried in the boat. There was nothing determined upon this inspection to indicate that anything relating to the boat or motor contributed to the incident.
- Water temperatures are measured by Norske Skog as part of the Derwent Estuary Monitoring Program. Measurements taken on 21 August 2014 in an area of the river

near the motor speed boat club was 6.91°C on the surface and 9.64°C at a depth of approximately 5m.

The results of the investigation indicate to me that Mr B has, for some reason, fallen from his boat whilst it was travelling in a northerly direction up river at speed. The post-mortem examination has indicated the possibility that Mr B has suffered a cardiac event; this may have occurred either prior to and is the reason for his fall into the river, or immediately upon falling into the river due to the effects of cold water immersion. The findings of the post-mortem are summarised by the forensic pathologist as follows:

“...elderly Caucasian man with copious pulmonary oedema emanating from the nose and present within the upper and lower airways. These findings are non-specific and are frequently found in bodies recovered from the water and often correlate with drowning.

In addition, there was severe atherosclerotic and hypertensive cardiovascular disease. The heart was enlarged (cardiomegaly) and there was thickening of the wall of the left main chamber of the heart (concentric left ventricular hypertrophy) in a pattern suggestive of long-standing high blood pressure. Finally, there was calcified atherosclerosis of the epicardial coronary arteries and evidence of congestive cardiac failure.

These findings are interpreted by me to suggest that Mr B has drowned possibly after suffering a cardiac event (e.g. cardiac arrhythmia) causing him to fall into the water.”

Comments and Recommendations:

Although it may not have played a part in Mr B's death, it is necessary to highlight the defective condition of his PFD. Mr B is reported to have been acutely aware of water safety issues, he always wore his PFD and his boat was in a good seaworthy condition and carried all of the required safety equipment. The fact that his PFD has apparently become defective over time due to lack of appropriate inspection and attention highlights a risk for other recreational boat users. The style of PFD being worn by Mr B is designed to activate by a bladder being inflated when a person pulls on a toggle to discharge a fitted CO₂ gas cylinder. It appears that Mr B's cylinder had worked itself loose over time and as situated on the day of the accident was unlikely to have discharged if activated. This circumstance highlights the need for periodic servicing by an authorised agent of such PFDs and regular inspection and checking by owners of such jackets as to their condition, e.g. manual inflation to check for bladder leaks and ensuring gas inflation system is in good order. I am aware that the style and type of PFD worn by Mr B is now manufactured so as to allow three means of inflation: automatic upon water immersion, manual activation of the gas cylinder or blowing up the bladder independently. I recommend that persons with older style PFDs investigate their serviceability, consider upgrading to the new model or investigate the retrofitting of the water immersion inflation capability.

This case also provides the opportunity to once again highlight to boat users the dangers of cold water immersion. As reported in this finding, the surface water temperature was only 6°C. Statistics show that the risk of drowning increases nearly five times if the water temperature is below 15°C and that 60% of fatalities due to cold water immersion occur in the first 15 minutes of immersion which is before the body core temperature cools to hyperthermic levels.

The first phase of the body's response to cold water immersion is the initial cold shock response that happens within 1 to 4 minutes of immersion. Rapid skin cooling at this stage initiates an immediate gasp response, the inability to breath-hold and hyperventilation. The gasp response may cause drowning if the head is submerged at that time and it has also

been found that sudden death may occur in some susceptible persons due to a cardiac event initiated by this cold shock.

The next stage, cold incapacitation occurs over 5-15 minutes due to the constriction of blood vessels in the extremities as the body reacts by decreasing blood flow to the extremities in order to preserve the heat for the vital organs in the body core. This will result in the loss of dexterity and movement in the arms and legs.

Finally, there is hyperthermia which is suffered as the body temperature drops. This is gradual and occurs over time dependent upon water temperature and the nature of clothing being worn. It may be anything up to an hour before the effects of hyperthermia are noticeable. It is during this time that a person needs to take all possible steps to slow or limit the loss of body heat; for example by limiting the amount of body immersed, limiting movement and adopting a posture either singularly or with others (huddle) to maximise the retention of body heat and decrease body area exposure to water.

A recommended guide to inform persons as to the effects of cold water immersion is the 1-10-1 principle which is:

- 1 minute to get your breathing under control;
- 10 minutes of meaningful movement;
- 1 hour before you become unconscious due to hyperthermia.

As can be seen from the above information, immersion in water in Tasmania, given normal water temperatures, does expose a person to an increased risk of drowning. Boat users should guard against this by operating their vessel in such a way as to minimise the risk of falling overboard. Devices that can assist in this regard are available such as tether harnesses. It is noted that such a device was fitted to Mr B's boat but was not used by him on this occasion. Operators also need to ensure that they have connected the motor "kill" switch to ensure that the motor stops should the operator fall overboard.

Finally, not only should PFDs be regularly serviced and inspected for any defect or deterioration but each person should test their PFD to familiarise themselves as to its operation and also to ensure that it is fitted and adjusted so as to maximise its effective operation.

I commend to all water vessel users the Marine and Safety Tasmania website at www.mast.tas.gov.au which contains extensive information on all aspects of safety in using watercraft.

I have decided not to hold a public inquest hearing into this death because my investigations have sufficiently disclosed the identity of Mr B, the date, place, cause of death, relevant circumstances concerning how his death occurred and the particulars needed to register his death under the *Births, Deaths and Marriages Registration Act 1999*. I do not consider that the holding of a public inquest hearing would elicit any significant information further to that disclosed by the investigations conducted by me.

Before I conclude I wish to convey my sincere condolences to the family of the deceased.

Dated: 19 June 2015 at Hobart in the state of Tasmania.

Stephen Raymond Carey
CORONER