I, Simon Cooper, Coroner, having investigated the death of Brian Owen Daley

Find, pursuant to Section 28(1) of the Coroners Act 1995, that

a) The identity of the deceased is Brian Owen Daley;
b) Mr Daley died as a result of carbon monoxide intoxication due to inhalation of exhaust from a petrol generator on a boat;
c) The cause of Mr Daley’s death was carbon monoxide intoxication; and
d) Mr Daley died between 10 and 11 January 2016 at the Gepp Parade Marina, Derwent Park, Tasmania.

Mr Daley was found, along with his friend Gregory John Burling, dead by Mr Barry Lowe in the cabin of the ‘Double B’, a boat owned by Mr Lowe and Mr Burling, about 8.40am on Monday 11 January 2016. Both men were last seen alive the evening before, but the circumstances of the case do not allow for a conclusion as to precisely when either died.

The death of Mr Daley (along with that of Mr Burling) was the subject of an immediate investigation by uniform, CIB and forensic officers. The investigation leads me to conclude that both the deaths were tragic and completely avoidable accidents. No circumstances of suspicion were identified and I am quite satisfied that neither death resulted from foul play.

As a result of the evidence obtained from a comprehensive investigation, I find as follows.

On Saturday 9 January 2016 Mr Daley and Mr Burling, along with Mr Lowe and Mr Lowe’s young daughter, commenced a journey in the Double B from Bicheno to Hobart. The boat was at anchor overnight in Wineglass Bay, with the four persons on board. Near midnight Mr Lowe’s daughter began fitting. Her father called 000 and she was urgently airlifted by helicopter to Hobart. Mr Lowe accompanied his daughter. She was immediately admitted to the Royal Hobart Hospital. After a blood test and observation Mr Lowe’s daughter was
discharged into the care of her parents, for follow up by CT scan. It was noted that she had never experienced any seizures in the past.

Meanwhile Mr Daley and Mr Burling continued the voyage to Hobart, arriving in the vicinity of the mouth of the Derwent River at about 6.45pm on Sunday 10 January. Mr Burling spoke to his wife at about this time. The evidence was that he told her it was his and Mr Daley's intention to spend the night on the boat at the marina at Prince of Wales Bay. He made no mention of either he or Mr Daley feeling unwell.

By about 10.00pm the boat was tied up at the Gepp Parade Marina. Mobile phone records subsequently examined as part of the investigation indicate that at 10.07pm Mr Daley spoke to Mr Lowe. Mr Lowe later told investigators that Mr Daley sounded intoxicated. He suggested Mr Lowe come to the boat with alcohol. Mr Lowe declined.

When Mr Lowe went to the Marina the next morning he was unable to raise either Mr Daley or Mr Burling by mobile phone. With the assistance of the Marina owner, Mr Peter Cross, Mr Lowe gained access to the boat and found both men dead in the cabin.

Police and paramedics were quickly on the scene. One paramedic reported feeling light headed after being in the cabin of the boat. It was clear nothing could be done for either man. Fire Service personnel also attended, as the first responders had concerns about gas. Once the cabin was declared safe, CIB, uniform and forensic officers were able to enter and examine and photograph the scene. No signs of disturbance, violence or anything in the nature of a struggle were identified. It was noted that no smoke detector or similar device was fitted in the cabin.

Forensic Pathologist Dr Donald Ritchey also attended the scene. He made a preliminary diagnosis of the cause of death of both men being due to carbon monoxide poisoning.

After formal identification of both bodies at the scene they were removed and transported by mortuary ambulance to the Royal Hobart Hospital. At the Royal Hobart Hospital, Dr Ritchey performed an autopsy upon Mr Daley's body. Samples were taken at autopsy and subsequently analysed at the laboratory of the Forensic Science Service Tasmania. As a result of that toxicological analysis carbon monoxide at a 69% saturation level, well within the reported fatal range, was found to have been present in Mr Daley's body. I am satisfied that the cause of Mr Daley's death was carbon monoxide poisoning.
The same toxicological analysis found alcohol to have been present in Mr Daley’s body at the level of 0.187 mg per 100 mL of blood. There is little doubt that at a concentration of this level there would have been a critical loss of judgement, in coordination, impaired balance and sedation and sleep - all symptoms of carbon monoxide poisoning as well. I am satisfied that the amount of alcohol Mr Daley consumed likely masked the effect of the carbon monoxide concentration upon him. This was also exacerbated by the absence of any warning device fitted to the boat.

Further investigation, and in particular by an officer of Marine and Safety Tasmania, identified the source of the carbon monoxide as being from a Honda EU 20i portable power generator which had been bought and installed by Mr Burling and Mr Lowe in the starboard aft machinery space area. The space is enclosed but not airtight. The muffler of the generator had a fabricated galvanised water pipe elbow attached with a plastic spiral type pipe. It was intended that this pipe was to have been held firm by a lightweight hat hose clamp however the hose clamp was not fit for this purpose.

The muffler was severely obstructed on the end by the fact that a shower fitting was placed on it. This appears to have created a large amount of backpressure in the exhaust system forcing exhaust gases to be expelled and in this instance from the machinery space area into the cabin.

Finally, a hole was identified in the plastic piping part of the home constructed exhaust extension system. This allowed exhaust gases to escape directly into the machinery space under the cabin and from there enter the cabin.

As has already been noted no carbon monoxide detector was fitted in the cabin of the boat (or indeed anywhere on the boat).

The owner’s manual for the generator contains a myriad of warnings in relation to how not to use the generator. There is an express warning against connecting an extension to the exhaust pipe. There is an express warning about the need for the generator to be serviced by an appropriately qualified dealer. The evidence was that apart from one service immediately after its purchase the generator was not serviced by an appropriately qualified expert in the field. There is an express warning against running the generator in an enclosed area and the need for the provision of adequate ventilation.

It is apparent that the generator that was fitted in this instance, and caused the deaths of these two men, was in an enclosed space, and had a very long home-made extension
fitted to the muffler. That muffler was obstructed on the end by the shower fitting and had a hole in it.

The generator should never have been installed where it was and ought never have had fitted to it the extended exhaust system. The extension to the exhaust pipe material itself was wholly unsuitable for the task for which it was designed and the end of the exhaust pipe was for all practical purposes blocked.

These then are the reasons why Mr Daley and Mr Burling died.

I note that after their deaths, Mr Lowe’s daughter’s blood was examined and noted to have had high levels of carbon monoxide present in it. However, no blame can attach to those involved with her medical care at the Royal Hobart Hospital. In the absence of any clinical history or any reason to consider carbon monoxide poisoning it is not reasonable to have expected that condition to have been detected.

**Comments and Recommendations**

In addition to being required to make findings pursuant to section 28 (1) of the Act a coroner is empowered, in appropriate cases, to make “recommendations with respect to ways of preventing further deaths and on any other matter that the coroner considers appropriate” (section 28 (2)) and to “comment on any matter connected with the death including public health or safety or the administration of justice” (section 28 (3)). Any comment or recommendation must be connected to the death the subject of the enquiry (see *Harmsworth v The State Coroner* [1989] VR 989).

The circumstances of the deaths of Mr Daley (and Mr Burling) are such that I am satisfied that it is appropriate for me to make recommendations.

It should be apparent from the substantive finding above that both deaths were entirely avoidable due, as they were, to a poorly installed and maintained petrol driven generator and the absence of any device to warn as to the presence of carbon monoxide in the cabin.

I **recommend** that all petrol driven generators only be used in accordance with manufacturer’s recommendations, and in particular, not be installed in a confined space and not have the exhaust system in any way modified.
I **recommend** that all boats with enclosed cabins and which have petrol driven motors of any type installed be fitted with a carbon monoxide detector.

I extend my appreciation to investigating officer Constable Kristen Haines for her investigation and report. I extend my appreciation to Mr Peter Keyes of Marine and Safety Tasmania for his very helpful report.

I convey my sincere condolences to the family and loved ones of Brian Owen Daley.

**Dated**  7 December 2017 at Hobart in the State of Tasmania.

**Simon Cooper**  
**Coroner**

**Pursuant to section 58, Olivia McTaggart, Delegate of the Chief Magistrate for the State of Tasmania directed that my findings of the 1 November 2017, be re-opened and re-examined in relation to one of the owners of the boat. My findings now reflect the correct owners of the boat ‘Double B’**