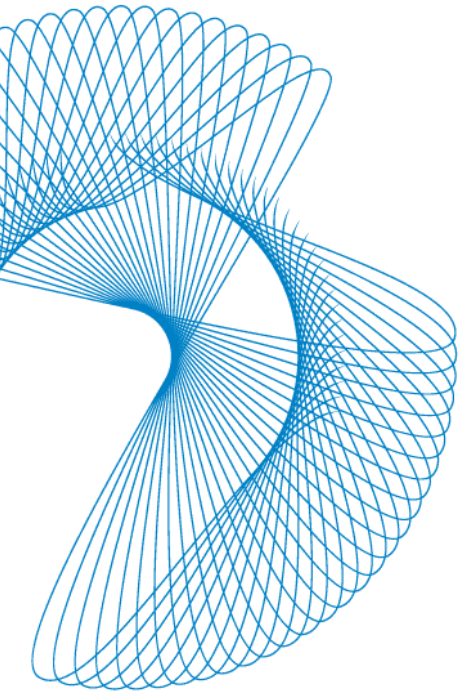
MARITIME NEW ZEALAND



Accident Report

Gas Inhalation

Marlborough River Queen

9 June 2007

Class B

NARRATIVE

At 1830 hours on 9 June 2007, the passenger vessel ***Marlborough River Queen*** departed the berth on the Taylor River, near central Blenheim.

Onboard were the Skipper, two crew and sixteen passengers.

The Skipper made his way slowly down the river as the passengers dined in the upstairs dinning room, adjacent to the helm position, one deck above the main deck.

At 1910 hours, the starboard engine stopped. The Skipper asked one of the crew to have a look at the engine. The crew opened the hatch to the outboard engine and found that the air duct pipe, attached to the outboard cowling, had vibrated off. He reattached it and told the Skipper who then restarted the engine.

Shortly after this a crew member that had been working in the galley area on the main deck, started to feel unwell and complained of a headache.

She went to the forward most part of the main deck to try and recover.

The vessel continued on to the scheduled turn around point half way through the cruise. The Skipper started to head the vessel back towards the berth at the start point.

The crew member continued to complain about her headache and felt nauseous. The other crew and Skipper rang ashore for a back up crew.

At about 2030/2045 hours, they dropped off the sick crew ashore, and embarked a replacement crew to continue on for the rest of the cruise.

Shortly after this one of the passengers fainted near the toilet on the main deck adjacent to the galley/bar area.

As the vessel neared the berth, the Skipper needed to turn the vessel around and reverse up river to the berth. While the vessel was undertaking this slow speed manoeuvre, a second passenger fainted while at the bar on the main deck.

The vessel berthed and all passengers and crew went to hospital for observation and oxygen. They were all later discharged with no on going complaints.

Figure 1
Vessel alongside the berth.

COMMENT & ANALYSIS

Evidence

On 11 June 2007 the Skipper and the three crewmembers were interviewed. Test runs were undertaken onboard the vessel.

The passengers were contacted and some filled in witness statement forms.

Analysis

Marlborough River Queen is an 18.3 metre wooden replica paddle steamer river boat. She is powered by twin 90 hp 4 stroke outboard engines.

She also has a Perkins 25 kVa generator providing 240 volts to the galley area.

The vessel had a valid Safe Ship Management Certificate with S.G.S due to expire in 2010.

The weather at the time was very cold and calm.

This night cruise was the first of the winter season. The vessel was completely closed in to keep the very cold night air out of the vessel. They had been cruising during the day with at least one window open.

Earlier in the evening the starboard engine had shut down. When the crew member checked it he found that the fresh air ducting to the engine had vibrated off. Suspicions were not raised at this time as to why the engine had stopped.

During the evening the vessel was travelling at steady speed, faster than the flow of water in the river. The passengers were seated in the upper area one deck above the galley on the main deck.

One passenger fainted while in the vicinity of the toilet which is on the main deck near the galley area. A second passenger fainted while seated at the bar near the galley. Both times the vessel had been travelling slowly at about the speed of the flow of water in the river.

Both outboard engines are mounted on a false transom and are completely enclosed with a non structural wall on three sides. The aft wall has a pipe passing through it for passive venting only.

Both engines have external fresh air ducting but did not have any means of forced extraction of the exhaust gases to the outside atmosphere.

Figure 2
Vessel alongside berth, note two passive vent holes in the stern.

Figure 3
Starboard engine configuration.

FINDINGS

When the vessel was manoeuvring at slow speeds the carbon monoxide levels dramatically increased in the aft deck and galley/toilet areas.

The Skipper and the majority of the passengers that were on the top deck did not readily feel the effects of the gas.

The river level was very low and at times the Skipper had to take considerable time manoeuvring the vessel at low speeds.

The vessel was tested using a calibrated gas detector. It was found that the two outboard engines were feeding exhaust gases into the passenger space at low speeds.

This cruise was the first night cruise with all the windows closed.

SAFETY RECOMMENDATIONS

1. On 11 June 2007 the Owners were issued with a Prohibition Notice requiring the operation to cease until the following were complied with.

    - Install powered extraction fans in each of the engine housing units
    - Install fresh air ducts to vent the aft deck area.
    - Install a gas detector in the galley/bar area.
    - Seal the under seat access hatches to the fuel tank storage area.

2. The above was complied with on 14 June 2007.

3. It is recommended that a guidance notice to be sent out to all Safe Ship Management Companies and Maritime New Zealand Safety Inspectors to highlight the need to check this issue in any other vessels of a similar configuration (*See Appendix 1 – Guidance Notice)*. *This recommendation is in progress.*

VESSEL DETAILS

Ship Name:	*Marlborough River Queen*
Ship Type:	Passenger
Certified Operating Limit:	Enclosed
Flag:	New Zealand
Construction Material:	Wood
Length Overall (m):	18.3
Registered Owner:	Marlborough River Queen Limited
SSM Company:	S.G.S
Accident Investigator:	Domonic Venz