

## SYNOPSIS



During the early afternoon of 26 August 2005, an FRM 900, 9.1 metre RIB was conducting a high speed, thrill ride in the vicinity of St Ives Bay in Cornwall. There were 12 passengers onboard, 6 of whom were children. As the RIB headed back towards the harbour, it came to an abrupt stop as the forward section of the hull split open, immediately flooding the boat. The front bench seat was torn from its deck mountings, throwing two of the children into the water. All were rescued and none suffered serious injury.

Both the RIB and operating company were known as *Big Yellow*. The company had been operating from St Ives harbour since acquiring the RIB in June 2005. The company advertised its trips as the “Ultimate RIB Ride” and passengers expected an exciting, high speed experience.

Earlier in the morning of 26 August, the RIB had undertaken one uneventful trip. At 1215 the skipper’s fiancée gave a rudimentary safety briefing to the next group of waiting passengers. Once embarked, the skipper advised his passengers to raise a hand should they have any difficulties during the trip.

The RIB left the West Pier in St Ives harbour at 1230 and headed towards Carbis Bay. The weather conditions were good and there was about a 0.5 metre swell running. The skipper conducted a number of high speed manoeuvres before heading towards St Ives Head and on to Porthmeor Beach. Once around St Ives Head, the RIB passed the single handed fishing vessel *Elisha*. By now, the swell had increased to between 1 and 1.5 metres, and the RIB’s speed was about 25 knots. The passengers were being bumped about in their bench seats, but none raised a hand to indicate concern.

After manoeuvring off Porthmeor Beach, the skipper reversed his course into the now, mainly following sea. Soon after, the RIB stuffed into a trough. The skipper felt something unusual in the RIB’s handling, the deck heaved slightly, there was a loud crack and the forward part of the hull momentarily adopted an angle of about 45 degrees from the horizontal. The front bench seat was torn from its deck mountings, plunging two children into the water. They were pulled back onboard soon after. The skipper rushed forward, heaved the two anchors and liferaft into the water and then set about accounting for his passengers.

Fortunately, the skipper of the fishing vessel *Elisha* saw what had happened and made his way towards the RIB. At the same time, the watchman in National Coastwatch Institution’s lookout at St Ives Head also saw the accident, and alerted the emergency services. The lifeguards at Porthmeor Beach also saw the accident, and immediately sent two lifeguards, on a jetski, to provide assistance. *Elisha* and the jetski evacuated most of the passengers, with the remaining being rescued by the St Ives ILB. The St Ives ALB and CG rescue helicopter were also despatched to the scene. The ALB towed the RIB into St Ives harbour, where it was met by the local police, harbourmaster and an MCA representative.

The post accident survey identified catastrophic GRP hull damage. The hull was split from the stem, down both port and starboard sides for about half the RIB's length. It was also found that there was no longitudinal hull stiffening, the transverse framing was very flimsy, and its glass reinforced fibre encapsulation appeared to be poorly bonded to the hull.

The RIB, one of 13 built in the FRM 900 class, was manufactured in May 2004, nominally in accordance with the EU's Recreational Craft Directive standards. Before fitting out, it was subjected to the MCA's Yellow Code (Safety of Commercial Motor Vessel – Code of Practice) compliance examination by an authorised surveyor/examiner of MECAL Ltd, which is one of MCA's Certifying Authorities. In June 2005, the boat was once again examined for Code compliance as part of the change of ownership process.

During the investigation, it was found that the boat building company's RCD documentation, tests and records were not RCD compliant, and that there were no calculations or professional design input to support the boat's build process or structural strength.

A number of anomalies with respect to the RIB's Yellow Code examinations were also identified. The most important being that structural strength of the RIB was assumed to be compliant because it had apparently been built to the required RCD standard. In fact, this was not the case.

To assist in establishing the cause of the accident, stress calculations and laboratory testing of hull samples were conducted, and the services of a specialist GRP surveyor sought. The investigation determined that the cause of failure was due to the RIB's light construction and inadequate hull stiffening to cope with the normal in service forces.

The investigation also found that the skipper lacked some of the necessary qualifications and endorsements, and that the harbourmaster was unaware of the qualifications required for the boat's operation.

Recommendations have been made to help prevent this type of accident re-occurring. They focus on:

- The need to verify the condition of the other 12, FRM 900 RIBs.
- The boat-builder's RCD compliance procedures.
- Clarification of the status of the RCD in relation to Code compliance examinations, especially those aspects relating to hull strength.
- Alerting local authorities on the importance of conducting RCD compliance checks on boat-builders, especially those that operate under self assessment rules.
- Advice to harbourmasters and boat operators on the qualifications required for small vessel commercial activities, and the need for risk assessments to have been undertaken on the vessel's intended operation.