



Class A Accident Report

Tiger III Grounding

At Cape Brett, on 18 December 2004

KEEPING YOUR SEA SAFE FOR LIFE



Maritime Safety

MARITIME SAFETY AUTHORITY OF NEW ZEALAND
Kia Maanu Kia Ora



REPORT NO:	04 3625
VESSEL NAME:	TIGER III
Ship Type:	Restricted Passenger Ship
Certified Operating Limit:	Inshore: Northland, Auckland, Bay of Plenty.
Port of Registry:	Whangarei
Flag:	New Zealand
IMO/MSA/Official No.:	MSA 875120
Built:	1985
Construction Material:	Aluminium Alloy
Length Overall (m):	20.92
Maximum Breadth (m):	8.70
Gross Tonnage:	181
Net Tonnage:	135
Registered Owner:	Fullers Bay of Islands Ltd.
Ship Operator/Manager:	Fullers Bay of Islands Ltd.
Classification Society/SSM Company:	Maritime Management Services Ltd.
Accident Investigator:	Andrew Hayton

SUMMARY

On Saturday 18 December 2004, the passenger vessel *Tiger III* suffered an engine failure whilst cruising in the vicinity of Cape Brett in the Bay of Islands. There were 59 passengers and three crewmembers onboard. The Skipper endeavoured to extricate his vessel from a lee shore situation but was unsuccessful and the vessel grounded. The crew were able to put mooring lines ashore to hold the vessel in position whilst passengers abandoned ship by disembarking onto the rocks and climbing up onto Cape Brett. Fortunately there were no major injuries to either passengers or crew.

NARRATIVE

Tiger III is a passenger catamaran constructed by Wanganui Boats New Zealand Ltd in 1985. It has operated in the Bay of Islands since new. It is of aluminium alloy construction.

The vessel has a length overall of 20.92 metres and a beam of 8.70 metres. The registered depth of the vessel is 2.36 metres and it has a gross tonnage of 181.

Tiger III is powered by two Deutz V12 diesel engines, one in each hull, and has a diesel generator located in the port side engine room. The main engines are not original, being fitted in 1995.

The vessel has an emergency battery supply located in the wheelhouse.

The Life Saving Appliance (LSA) capacity of *Tiger III* is for 302 persons. The operating limits are for 235 passengers and 5 crewmembers.

The vessel has a Safe Ship Management (SSM) Certificate issued by Maritime Management Services on 19/8/01, which has an expiry date of 28/7/05.

The Skipper of *Tiger III* was 44 years old and holds a New Zealand Certificate of Competency as a Commercial Launch Master, issued in 1990 and as Engineer of a Local Ship-Motor issued in 1993. He also holds a Restricted Radar Certificate and a Restricted Radiotelephone Operators Certificate.

The Skipper has been sailing as Skipper in the Bay of Islands onboard commercial passenger vessels since 1992 and had worked as Skipper onboard *Tiger III* for approximately seven and a half years prior to the accident.

Crewmember 1 was 56 years old and had attended an Advanced Deck Hand course earlier in 2004. He has worked onboard the owners' passenger vessels in the Bay of Islands since 1988.

Crewmember 2 was 30 years old, female, and holds no formal maritime qualifications. She has worked onboard commercial passenger vessels in the Bay of Islands for approximately 5 years including 11 months working for the owners of *Tiger III*.

The owners of *Tiger III* also own a maintenance facility at Opuia for their vessels. Members of the company's shore staff carry out all planned maintenance. The Maintenance Division Manager had worked for the company for 11 months prior to the accident. He has considerable experience in marine engineering, having entered the industry in 1987.

The cruise upon which *Tiger III* was engaged is a regular cruise offered by the vessel's owners and other local operators.

THE INCIDENT

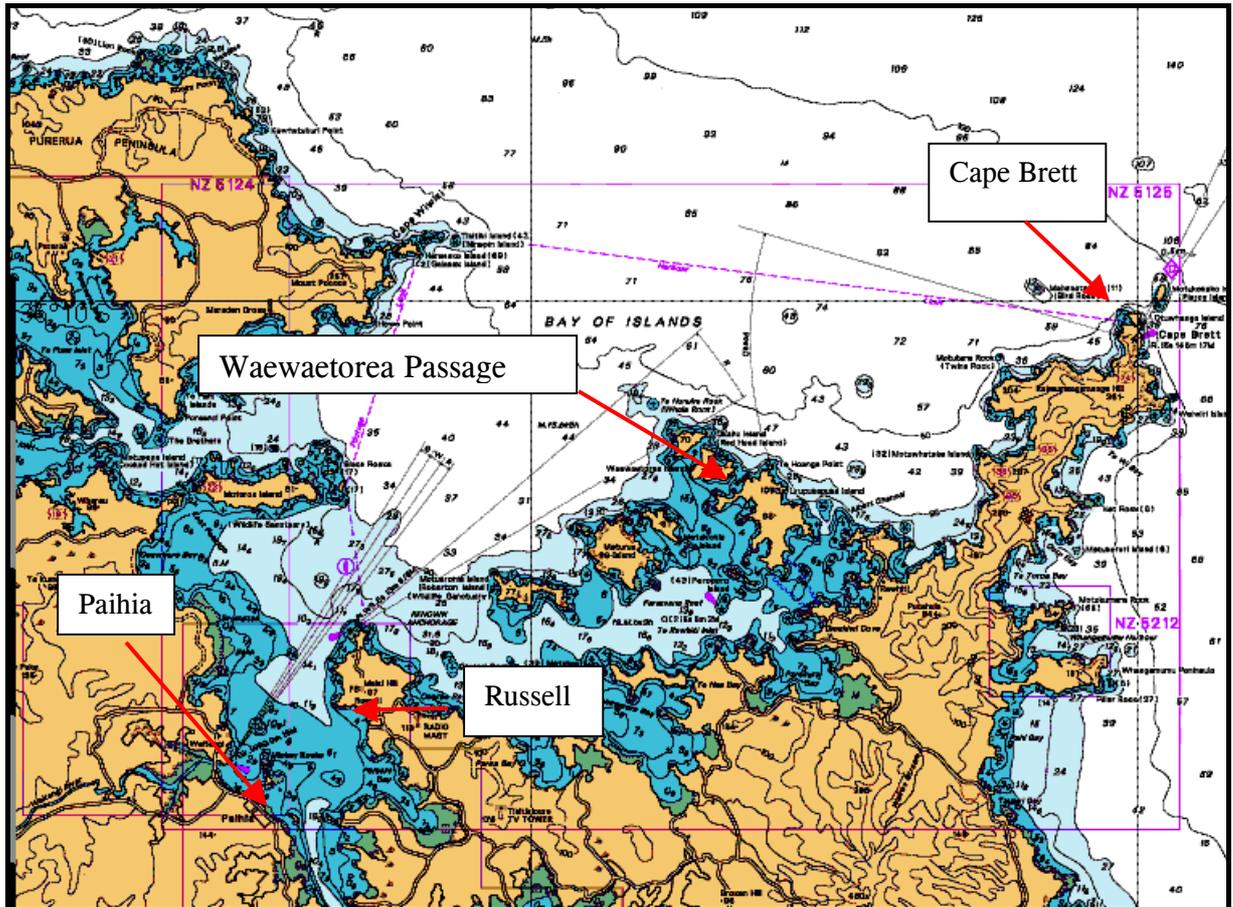


FIGURE 1 - EXTRACT FROM CHART 5125

On 18 December 2004 at approximately 1330 hours New Zealand Daylight Time (NZDT), *Tiger III* departed Paihia for a scheduled cruise to Piercy Island and the 'Hole in the Rock'. On board were 55 passengers and three crewmembers. At approximately 1345 hours, *Tiger III* called at Russell and embarked a further four passengers.

Upon departure from Russell, the Skipper broadcast a safety announcement to passengers over the vessel's public address system. Amongst the topics covered was the stowage location of the lifejackets and the fact that passengers might experience some rough sea conditions.

Tiger III proceeded on its usual scenic cruise through the Bay of Islands via the Waewaetorea passage (See Figure 1). Shortly after transiting the passage, Deckhand (1) did his routine checks of the machinery spaces and opened the black water valves in order to commence discharging sewage from the vessels' holding tanks; he observed nothing out of the ordinary. When *Tiger III* arrived off Piercy Island (See Figure 2), the weather and sea conditions were such that the Skipper decided that it was too rough to pass through the 'Hole in the Rock' (a natural tunnel which passes through Piercy Island). Instead, the Skipper made a 360° turn off the southern entrance to the Hole to enable all the vessel's passengers to have a good view. The

Skipper then manoeuvred *Tiger III* astern so that it was in the southern entrance of the Hole.

After spending several minutes in the vicinity of Piercy Island, *Tiger III* then proceeded around the west coast of Otuwanga Island towards the landing below Cape Brett Lighthouse (See Figure 2).

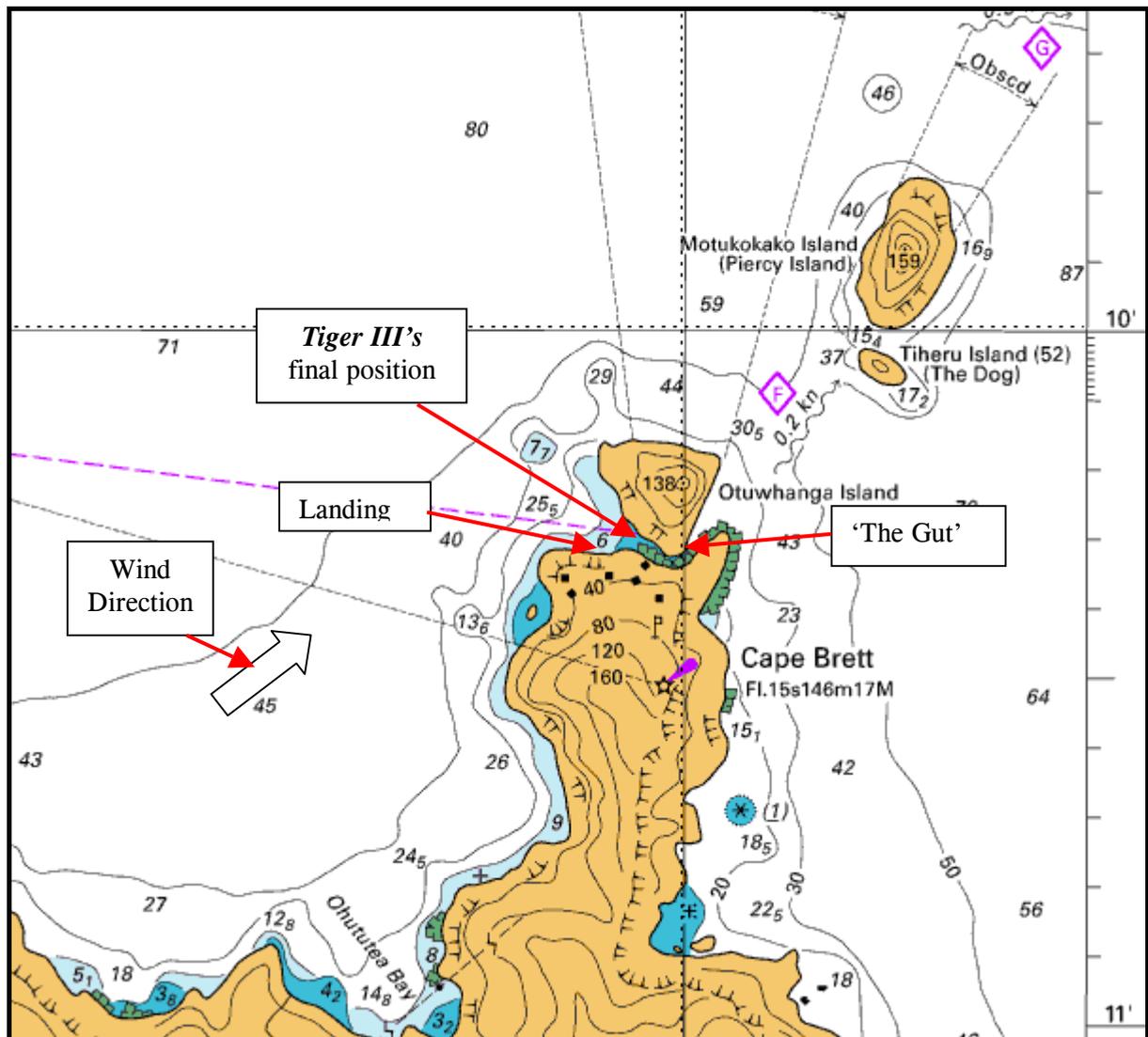


FIGURE 2 - EXPANDED CHART EXTRACT FROM NZ 5125

When approaching the cove below Cape Brett lighthouse, the Skipper reduced the vessel's speed. When the vessel was out of the worst of the waves, he went astern on the port engine. At this instant, the vessel lifted slightly on a swell wave. The Skipper noticed no breaking effect and put the helm to port to initiate a turn. As the vessel was reducing speed, the Skipper commenced his commentary to the passengers. At this point, the port engine revolution gauge in the wheelhouse was registering 500rpm (revolutions per minute), which is idling speed. The Skipper pulled the port throttle control back further but there was no corresponding increase in revolutions. The Skipper knew then that there was a problem with the port engine.

He attempted to take all way off the vessel using the starboard engine. This action screwed the stern of *Tiger III* around to port. The vessel stopped approximately 40 metres from the shore to the west of the landing (See Figure 3 - Position 'A').

The Skipper put the port engine into neutral and noticed that the revolutions fell to zero. He knew that the port engine had stopped. The Skipper then went astern on the starboard engine in order to increase his distance from the shore (See Figure 3 - Position 'B'). He pressed the start button for the port engine a couple of times but it failed to start. The Skipper switched the steering gear across to starboard engine control. *Tiger III* started to set towards Otuwanga Island.

The Skipper then notified the passengers of the problem with the port engine via the public address system.

The Skipper contacted another passenger vessel, *Dolphin Seeker*, which was close by on VHF (very high frequency) Ch.09. He informed them that he had engine problems and asked them to standby. *Dolphin Discovery IV* also overheard the message and offered assistance.

As the Skipper was busy with the situation onboard his own vessel, he asked for one of the other vessels to relay a distress message for him.

At around this time, the Skipper of *Tiger III* made an announcement on the vessel's public address system informing the passengers of the vessel's predicament and telling them to don lifejackets. The Skipper considered dropping the vessel's anchor but determined that there was insufficient time. He was still trying to manoeuvre the vessel and as other vessels might come close to offer assistance, he didn't want to confuse the situation.

At 1514 hours, the first distress relay message was received by the Maritime Operations Centre, in Avalon, Lower Hutt, from *Dolphin Discovery IV*.

The two deckhands assisted the passengers in donning their lifejackets and also provided children's lifejackets for the children. They then went onto the foredeck of *Tiger III* in preparation to receive a towline from *Dolphin Seeker*.

At some stage between the engine failing and the vessel grounding, the generator stopped.

The Skipper wanted to try and get the wind on the port quarter of the vessel and by going astern on the starboard engine hoped to be able to keep the wind on the port quarter and 'walk' the vessel astern out of the cove. He put the helm hard to port and went ahead on the starboard engine. The engine was stopped before hitting the rocks on Otuwanga Island and the vessel was set towards the 'Gut' (See Figure 2 & Figure 3 - Position 'C').

The towline was passed from *Dolphin Seeker* and the eye put over a bollard on the starboard bow of *Tiger III*. The towline was then made up on the port quarter of the towing vessel. At about this time, *Tiger III*'s port quarter made contact with the rocks off Otuwhanga Island (See Figure 3 - Position 'D'). Soon afterwards, the towline parted.

The passengers were moved from the upper passenger deck so that they were all mustered in the main passenger cabin.

At 1519 hours, the Skipper of *Tiger III* contacted Maritime Operations Centre and confirmed that the vessel was aground below Cape Brett light, that the hull was punctured and that they were possibly taking on water. The Skipper gave the details of his vessel and the number of persons onboard and asked for assistance in transferring his passengers to another vessel in case it was not possible for passengers to climb ashore.

Tiger III was set towards a position where its port shoulder was close the rocks just to the east of the landing (See Figure 3 - Position E). The swell was pushing the vessel astern and the Skipper saw an opportunity to make the vessel fast alongside a natural rock ledge that was cut into the rock face. The Skipper was concerned that the vessel would be pushed further into the Gut after ripping its port side on the rocks.

Once close enough to the rocks, Deckhand (2) jumped ashore with a mooring line. The deckhands then proceeded to obtain more mooring lines from the foredeck. They ran two lines and made them fast around rock pinnacles on the shore. The vessel was made fast alongside the rocks and hard against rocks aft (See Figure 3 - Position 'F'). At this stage, the Skipper left the wheelhouse and proceeded to the main cabin to inform the passengers what was occurring. He then went to the foredeck and ran a bowline to the shore and then ran a short stern line.

At some stage during the incident, the starboard engine stalled.

Once the vessel was secured, the Skipper decided that the passengers should abandon ship. With the Skipper and Deckhand 1 assisting on the vessel and Deckhand 2 assisting on the rocks, all of the passengers were disembarked one by one via the port quarter sea door. During this time, *Tiger III* was surging against the rocks. The passengers had to time their move between the waves and step down onto the vessel's belting and thence onto the rocks.

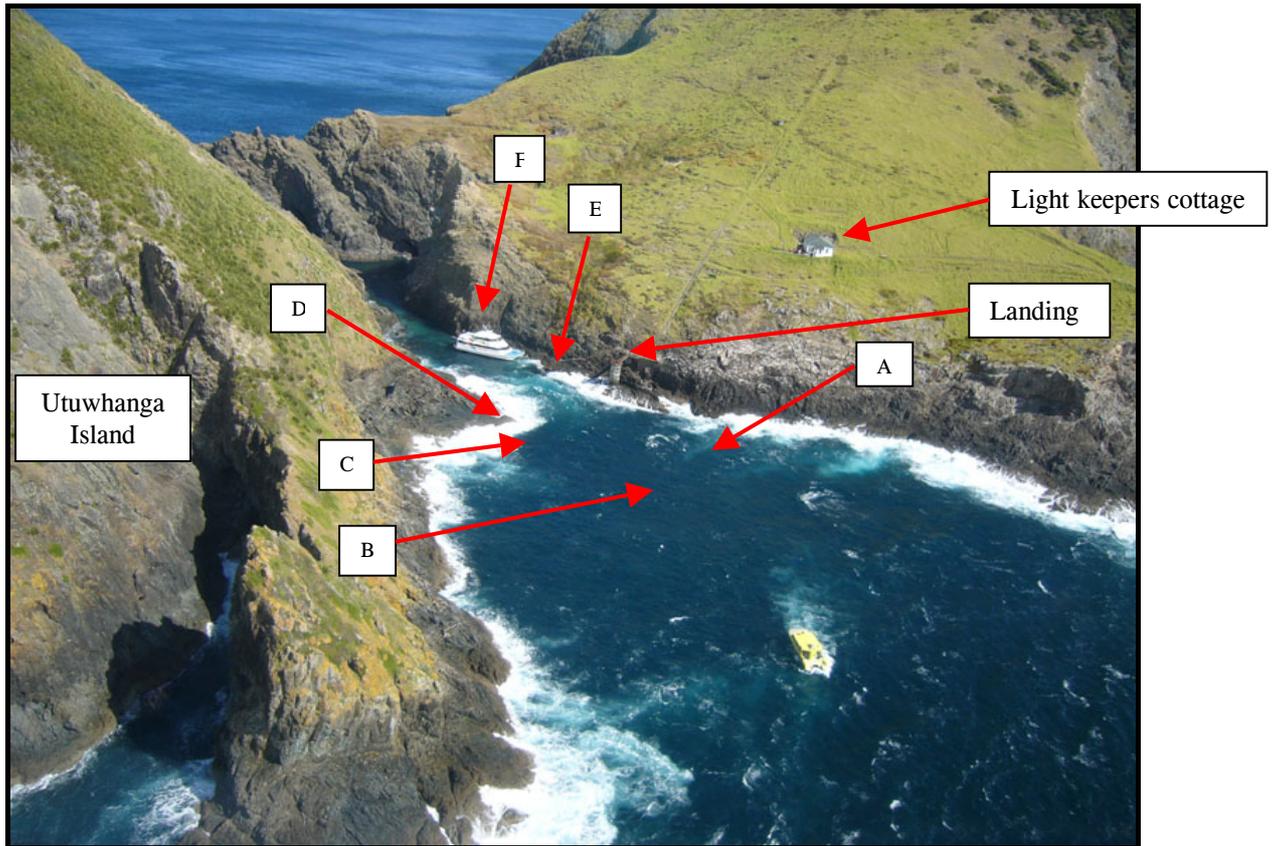


FIGURE 3. VIEW OF COVE FROM NORTH WEST
 (PHOTO COURTESY OF NEST HELICOPTER)

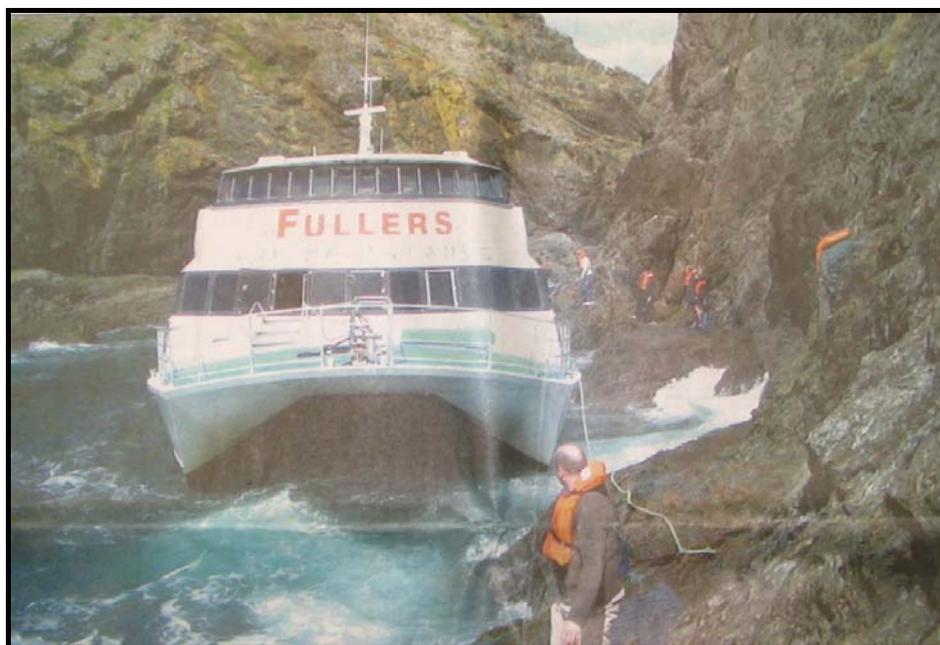


FIGURE 4 - PASSENGERS ABANDONING *TIGER III*

Once on the rocks, the passengers were able to make their way along a natural ledge with the aid of a safety line that the crew had rigged. They were then able to climb up the rocks and steps near the landing and onto the grassed area of Cape Brett.

At 1736 hours, the Skipper notified the Maritime Operations Centre that all passengers had been safely evacuated from the vessel. He then obtained the key code for the old lighthouse keepers' cottage and passed it onto Deckhand 2 in order to allow passengers to have shelter whilst awaiting rescue.

Once all of the passengers and Deckhand 2 were safely ashore, the Skipper went to the starboard engine room and started the engine locally without problem. He also operated the emergency bilge pump.

When the Skipper entered the port engine room, he observed that there was water just over the floor plates. He turned the control switch to 'local' and attempted unsuccessfully to turn the engine over.

Once outside of the machinery spaces, the Skipper noticed fuel on the surface of the sea. Upon checking the hull compartments, the Skipper found that three of the five void spaces were partially flooded. At this point he decided not to make an attempt to tow *Tiger III* off the rocks.

At approximately 1930 hours, the first of the owner's engineers arrived on the scene to assess the condition of the vessel. At 1956 hours, Maritime Operations Centre broadcast a 'Seelonce Feenee' broadcast. It wasn't until dusk that the first salvage pumps arrived at the scene. As the hull was open to the sea and tide and no way of shoring up the spaces, the pumps were of no use at that time.

At approximately 2230 hours all salvage operations were abandoned for the night and all personnel left the vessel and spent the night on Cape Brett. Salvage operations were resumed on 19 December at first light.

Salvage

Unfortunately, *Tiger III* was badly damaged by the actions of waves pounding it against the rocks below Cape Brett light, in the days after the accident and was declared a Constructive Total Loss.

As it was not possible to extract the wreck of *Tiger III* in one piece, it was cut into small sections and removed by barge in late January 2005.

COMMENT & ANALYSIS

Observations

Before the Skipper raised the alarm, Deckhand 1 noticed that there wasn't as much engine noise as normal. He went outside and smelt a strong smell of diesel. Upon returning to the passenger cabin, he noticed that the generator had stopped. Deckhand 2 was on the upper passenger deck when the vessel approached the cove. She was checking the passengers and asking them to remain seated whilst the vessel manoeuvred. She smelt a strong smell, described as being like burning rubber. She went to the wheelhouse to inform the Skipper but noticed that he was on the VHF radio asking for assistance and that he was already dealing with the incident.

Three passengers described smelling what appeared to be burning rubber, prior to the engine failure. One of these passengers also heard a sound he described as being like a champagne cork popping. He heard this sound only once.

The engine room heat detectors were not activated during the incident.

The Skipper cannot remember looking at the engine gauges between leaving Piercy Island and the time of the engine failure. No engine alarms were activated in the wheelhouse.

When the Skipper went into the port engine room once the passengers were evacuated, he did not notice or smell any smoke, or notice anything unusual within the space.

At the time of the incident, there was a power cut affecting most of Paihia. This created some communication difficulties.

The Company

The owner of *Tiger III* is Fullers Bay of Islands Ltd. The parent company of Fullers Bay of Islands Ltd is Tourism Holdings Ltd as of 1 December 2004.

The Designated Person Ashore (DPA) for *Tiger III* is the company's Operations Manager. He had worked for the company for 10 months prior to the accident. He has no formal maritime qualifications.

In September 2004, the company appointed one of its most senior masters to the role of Maritime Safety Officer in addition to his role as Master. Amongst his duties was to review and update of the fleets' Safe Ship Management (SSM) systems.

The company has no policy on how close the skippers of its vessels should approach the coastline. It is left to the Skippers discretion. The company does however have written guidelines for its Skippers when operating through the 'Hole in the Rock'.

A recently introduced policy requires that formal meetings be held, at six weekly intervals, between management, the Maintenance Department and the fleets' skippers. The requirements for these meetings are laid out in the SSM manual section 6.5.

The company conduct audits on passenger operations by employing the services of Mystery Shoppers who are people employed to go onboard as a customer, without the crew knowing, and observing procedures and practices in order to inform management how things are run onboard and how things could be improved from a passengers point of view. They are used by most reputable companies ashore and afloat.

The company maintain their own private radio communications system. This system allows communication between the fleet, offices and maintenance workshop.

Engine

The Owners maintenance staff conduct all planned maintenance onboard the company's vessels.

The oil filters are replaced every 250 hours and the fuel filters are replaced every 500 hours. These filters were last replaced on 3/12/04.

The belts on the engines are replaced as required but at least annually.

The fuel injector pipes are single jacketed.

When *Tiger III* departed Opua on the morning of the incident, the port engine had 19 861 hours recorded and the starboard engine 19 915 hours. The generator had a total of 30 957 hours recorded.

Prior to sailing each morning, the Master completes thorough pre-departure checks of the engine spaces. On the morning of the incident, the Skipper topped up the generator with approximately one litre of oil.

It is normal practise within the company for the Skipper to make note of any engineering faults in the vessel's logbook so that the maintenance staff can take note of the comments and initiate repairs where necessary. The day before the incident, the Skipper had recorded the fact that there was some dried salt deposits in the port engine room, and that the starboard battery charging light had come on briefly.

The workshop team conduct weekly maintenance checks. They use the same pro-forma sheet that the crew use for their weekly checks to tick off jobs as being done.

They also make note of any faults on the back of the sheet. The last workshop weekly checks, prior to the accident, were carried out on 15 December 2004. The recorded faults included that the bilges were to be cleaned and pumped and that the starboard bilge pump 24-volt float switch was sticking in the 'on' position. The items checked were:

	P	S		P	S		
Engine batteries condition	✓	✓	Hydrometer test	✓	✓	Radio Battery condition	✓
Alternator belts	✓	✓	Water pump belts	✓	✓	Hydrometer test	✓
Grease rudder bearings	✓	✓	Propeller shaft seals	✓	✓	Emergency pump blts	✓
Check linkages	✓	✓	Lubricate linkages	✓	✓	APU W/pump-LTbelts	✓
Wash aircleaners - 500hrs	-	-	Wash APU aircleaner - 500 hrs	N/A	-	Check all anodes	✓
Check anodes (mains)	✓	✓	Check APU anodes	N/A	✓	Check all hoses/clips	✓
Turn gearbox filter	✓	✓	Inspect bilge lines	✓	✓	Check exhausts	✓
Check transmissions	✓	✓	Check bilges	✓	✓	Check hoses/clips APU	✓
Check oil alarms	✓	✓	Run bilge pumps	-	-	Check APU shutdown	✓
Check temp alarms	✓	✓	Run fire pumps	-	-	Run mechanical pump	-

P = Port S = Starboard

The bilges had not been pumped out for the previous two weeks, as they were dirty.

There are two Racor fuel filters for each engine. Of these filters, only one is in use at any one time. On the port engine, the Racor filter is the primary filter for the generator as well as the engine. The filters have taps, which can be closed accidentally when checking the forward end of the engine. If closed, the engine would run for approximately 10 minutes before stopping, due to fuel starvation.

The only common systems between the port engine and the generator are the fuel system, the 24-volt supply and the cooling water supply.

The drive belts are located on the forward end of the engine. There are double belts for the saltwater pump and single belts for the fresh water circulating pump and the alternator. On the starboard engine, there is also a drive belt for the emergency bilge pump.

The generator has a drive belt for the alternator and a belt for the fresh water cooling pump.

Tiger III had a reputation as being a very reliable vessel. In the seven years that the Skipper had been in command, he could only recall two occasions where there were minor engine problems. These problems did not affect vessel safety.



FIGURE 5 - RACOR FILTERS ON STARBOARD ENGINE.



Figure 6 - View of Starboard Engine Room From Aft

Crew

Tiger III has a Minimum Manning Certificate that was issued by the Director of Maritime Safety on 8/12/03. At the time of the accident, the vessel was operating in the Inshore area with less than 100 passengers onboard. As such, the vessel was required to have a total safe crewing complement of three persons. The Skipper was required to possess an Inshore Launch Masters Certificate of Competency (ILM) or equivalent. One of the deckhands was required to possess an Advanced Deckhand Certificate (ADH). The other deckhand was not required to have a formal maritime qualification.

The Skipper held a Commercial Launch Masters Certificate of Competency (CLM), which was the predecessor of the ILM Certificate. In order to upgrade his CLM to the equivalent of an ILM, the Skipper was required to hold a Restricted Radar Certificate and a Restricted Radiotelephone Operators Certificate, both of which he held. The Skipper was the company's designated skipper for *Tiger III*.

Deckhand 1 had applied to the MSA on 9/12/02 for an ADH Certificate. He did not provide the necessary documents to be able to process his application and therefore no examination permit was issued. Without the permit, he was unable to sit the ADH exam and thus at the time of the accident he did not possess any maritime qualifications. As such, the vessel was operated in breach of her minimum manning Certificate.

The company has designated every Tuesday to be a service day. This is the day when crew training is conducted and all of the vessels' safety equipment is checked. The Skipper of the vessel is responsible for the training of the crew.

The owners maintain crew training records and copies of crew qualifications.

The Skippers' present training record sheet commenced in November 2003. Since then he has signed off having conducted fire, man overboard, collision, abandon ship and mechanical malfunction drills. The column for grounding, as regards what to do in the event of grounding had not been signed off. The last signed off training was undertaken on 28/3/04.

Deckhand 1's present training sheets' show that the first signed off training session was dated 28/10/03. The last recorded training session was signed off on 5/10/04. There is no record of him having conducted grounding or abandon ship drills.

Deckhand 2's training sheet has its first entries dated simply 3/12. There is no record of her having conducted a grounding drill or abandon ship training. The last entry was dated 3/12. These were also the last entries.

The Safe Ship Management manual section 6.5 states:

The business will establish and maintain procedures for identifying any training, which may be required in support of the SSM system, and ensure that such training is provided for all concerned.

Fullers Bay of Islands Ltd is the employer of all the crew.

Fuel

Tiger III is berthed at the company's pontoon in Opuā marina overnight. Fullers have bunkering facilities at the pontoon. The diesel fuel originates from Mobil and is delivered by Kaurilands approximately every four days. The capacity of the fuel tank is approximately 48 000 litres.

The company's night cleaners are responsible for bunkering the fleet. The vessel is usually bunkered every other day.

Tiger III was last bunkered on 16 December 2004. The starboard tank had 750 litres added to give a total of 1 900 litres. The port tank had 820 litres added to give a total of 2 000 litres.

The average daily fuel consumption from the starboard tank is approximately 350 litres, and is approximately 395 litres from the port tank.

The fuel tanks each have a capacity of 3 500 litres. It is not possible to pump fuel from one tank to the other but the engines can draw off the same tank if required.

When *Tiger III* left Opuā on the morning of the accident, there were 1 580 litres of fuel in the port tank and 1 550 litres of fuel in the starboard tank and, at the time of the accident, there would have been approximately 1 200 litres of fuel in the port tank and 1 280 litres in the starboard tank.

Tiger III did not have a history of having fuel contamination and none of the other vessels in the fleet suffered fuel problems in the days before or after the accident.

Life Saving Equipment

Tiger III carried 240 adult lifejackets and 24 children's lifejackets. All of the children's lifejackets were of one size. At the time of the accident, *Tiger III* was carrying five children and one baby.

Maritime Rule 40A Appendix 4.3 Restricted limit ships – lifejackets states:-

- (2) *An inshore limits ship certified to carry more than 12 passengers must be provided with an additional number of children’s lifejackets, of appropriate sizes, (MSA emphasis) that comply with rule 42A.19, equal to at least 10 percent of the total number of persons that the ship is certified to carry, or such greater number as is necessary to provide a lifejacket of appropriate size for each child carried.*

Construction

Tiger III is of aluminium construction and catamaran design. Each hull is divided into 5 watertight compartments. The forepeak is separated from the next space by the collision bulkhead, and is kept half full of water for ballast purposes. There is a forepeak valve for draining purposes. This valve can be operated by means of an extended spindle, the head of which is covered by plug on the foredeck. A spindle key is required to turn the spindle once the plug is removed.

Moving aft, the next space is a void space that is kept dry. The next space aft is also a dry void space that contains a half height fuel tank at the aft end of the space. The fuel void space is not accessible from deck, only via the engine room or forward void. The next space is the engine room. At the stern is a small steering flat. The void spaces, with the exception of the forepeak, are all pumpable. There are no bilge alarms in the void spaces; the engine spaces have bilge float switches that operate an alarm in the wheelhouse.

The vessel operates at a draft of between 1.8 and 2.0 metres.

The vessel is not fitted with an echo sounder transducer.

The vessel is not equipped with bow or stern thrusters. The vessel’s propellers are fixed pitch.

On the wheelhouse console are several engine room indicators and gauges:-

- Revolutions Per Minute (RPM) gauges.
- Oil Pressure gauge.
- Battery Charge gauge.
- Gearbox temperature gauge.
- Engine temperature gauge.

There are also audible and visual engine room alarms located in the wheelhouse. These are:-

- High temperature alarm.
- Low oil pressure alarm.
- Gearbox alarm.
- Bilge alarm.
- Wet box alarm.
- Heat detector alarm

The engine rooms are fitted with heat detectors.

The vessel has an emergency battery bank located under the wheelhouse console.

There are two steering systems onboard *Tiger III*. According to the company's Operations Manual for the vessel, the starboard engine controls the 'standard' steering pump and the port engine controls the 'emergency' steering pump. However, the Skipper states that the opposite is correct. The toggle control on top of the wheelhouse dash works with the steering selector switch in either 'standard' or 'emergency' positions. The wing controls only work when the selector switch has 'standard' selected. The chair toggle only works if 'emergency' is selected.

The black and grey water valves are located at the bottom of the access ladder to the engine room.

The fuel shut off valves are located in the emergency cupboards, which are on either side of the galley in the main saloon, together with the CO₂ releases.

Vessel Operations

Maritime Rule 23 Operational Training and Procedures Section 23.19 Instructions states:

(2) Where passengers are carried the owner and the Master of a ship to which this rule applies, must ensure that illustrations and instructions in English, and such other languages that are likely to be understood by the persons onboard, (MSA emphasis) are posted in passenger cabins and conspicuously displayed at muster stations and other passenger spaces. These must inform passengers of:-

- (a) Their muster stations*
- (b) The essential actions they must take in an emergency; and*
- (c) The method of donning lifejackets.*

The vessel did not comply with this requirement as all written signage was in English. However, there were visual placards showing how to don a lifejacket posted onboard and internationally recognised signage showing the location of muster stations.

There is no large-scale chart available for the area around Cape Brett and Piercy Island. The only navigation chart available is NZ5125 that covers the entire Bay of Islands. It is believed that the charted depth of water in the centre of the cove below Cape Brett light is approximately 12 metres.

The company put no pressure on their Skippers to operate the vessels in certain areas. It was left up to the Skipper of each vessel to determine whether or not to pass through the 'Hole in the Rock' or whether to enter the cove, below Cape Brett light. On the day of the accident, the Skipper decided against going through the 'Hole' on both the morning and afternoon cruises. He also decided against entering the cove below Cape Brett light on the morning cruise. As the swell had eased by the afternoon of 18 December, he decided to enter the cove. The length and width of the cove are each about one cable (0.1 nautical miles or 185 metres). It is safe for small vessels to enter the cove but they must take the weather into account. Figure 3 shows another sightseeing vessel entering the cove. The vessels would normally not go any further into the cove than position marked B on Figure 3.

Weather

The Skipper of *Tiger III* checks the weather forecast at 0730 hours each morning on VHF channel 67. There was a gale warning in force for sea area Brett with a forecast of westerly wind 25 knots rising to 35 knots, rough sea with fair visibility and showers. The Skipper expected the weather to ease in the afternoon.

The actual wind experienced on the trip was southwesterly 20 knots with a slight northerly swell. In the cove below Cape Brett lighthouse, where *Tiger III* grounded, the wind was curling around the headland and was westerly at 15 knots. There was between 0.5 and 1.0 metres of northerly swell. High tide was at approximately 1435 hours on 18 December with a height above chart datum of 2.4 metres. There would therefore have been minimal tidal stream.

Evacuation

Fullers' Management contacted a local helicopter operator, Salt Air, to ask for assistance as soon as it became clear that passengers would need evacuating from Cape Brett. At the time, Salt Air's helicopter was at Cape Reinga. Their helicopter first arrived at Cape Brett at approximately 1625 hours and commenced ferrying passengers to Paihia School. This helicopter made a total of three trips carrying passengers.

Salt Air also organised another local helicopter, owned by Ralph Shultz Helicopters, to assist. At the time, that helicopter was at Maungaturoto. This helicopter also assisted in the ferrying of passengers to Paihia School.

At 1545 hours, the Auckland Police Maritime Unit informed the Northland Emergency Services Trust (NEST) of the incident and they decided to proceed towards the scene without a formal callout. Their helicopter was in Auckland at the time. Five minutes later the Auckland Westpac rescue helicopter was put on standby. At 1640 hours, the NEST helicopter was formally advised by its coordination centre to attend. By this time, the helicopter was just North of Whangerei.

At 1654 hours, the Nest helicopter arrived at Cape Brett. It made four flights, each evacuating six passengers from Cape Brett to Paihia School.

The Westpac Rescue helicopter arrived at Cape Brett at approximately 1710 hours and was carrying two inflatable bridges in case they were needed. It made a couple of passenger carrying flights to Paihia school.

By the time the NEST Helicopter departed Cape Brett for its base at Whangerei at 1835 hours, all of the passengers had been evacuated from the scene.

Inspections

Tiger III underwent its last Safe Ship Management (SSM) inspection on 22 June 2004. There was one deficiency, namely, that the vessel was short of a couple of lifejackets. The deficiency was corrected immediately.

The Maritime Safety Authority last inspected the vessel on 19 February 2000 whilst it was in Auckland. No deficiencies were found at that time.

Human Factors

Neither drugs nor alcohol played a part in this accident. The crew were well rested prior to commencing work on 18 December, and were not suffering from fatigue. It was the Skipper's first day back at work after two days off.

CONCLUSIONS

N.B. These are not listed in order of importance.

The port engine of ***Tiger III*** failed at a critical moment. Had the vessel been in open water, it could have returned to port using just the starboard engine. Due to the confines of the cove and the fact that the vessel's way had been taken off, it was extremely difficult to manoeuvre. The Skipper found himself in the unenviable situation of being on a lee shore in a rocky cove with no forward motion and with not a great deal of sea room.

Tiger III's port side engine room was already completely submerged by the time MSA Investigators reached the vessel on the day after the accident. The vessel was not salvaged until late January.

When salvaged, water was found in the primary Racor fuel filter. There was also water in the generator's secondary fuel filter. There was some dirt in the filter bulb. On each engine, there was one filter tap in the 'open' position and one in the 'closed' position, thus the tap had not been closed accidentally, shutting off the supply.

All of the drive belts were intact.

The injector lines did not contain water and the piston rods were not bent.

All of the blades on the port propeller were bent forward. There were a couple of damaged blades on the starboard propeller.

Although it is not known exactly what caused the engine to fail, it is suspected that the failure was due to an abnormality in the fuel system. This is due to the fact that both the port engine and the generator failed within a short period of time and the fact that the fuel system was one of the few common links between the two.

Although the vessel's crew performed very well throughout the incident, and told the Investigators that their training had helped enormously, the company's records of crew training could be improved.

The Master and crew of ***Tiger III*** are to be commended for their actions once the vessel had grounded.

The Investigators found the operating company and its staff to be very co-operative throughout the investigation. The company's hazard identification program stands out for particular commendation.

SAFETY RECOMMENDATIONS

1. It is recommended that the owners comply with **Maritime Rule 40A** by ensuring that there is a lifejacket of appropriate size for every child carried onboard its vessels.
2. It is recommended that the company critically review the qualifications of all its seagoing employees to ensure that they have the required certification to enable the vessels to meet the minimum manning requirements as laid down on each vessels Minimum Safe Crewing Document.
3. It is recommended that the company introduce a system of providing safety information to non-English speaking passengers in order to comply with **Maritime Rule Part 23**.
4. It is recommended that the company review its policy on how crew training in emergency procedures is provided and how the records of such training are managed. Although training is being conducted onboard the vessels, it is not always being recorded. There should be a system that enables management to regularly check that crew training has been given to all seagoing staff within the time intervals laid down in a company policy. This should be documented in the SSM manuals of all vessels operated by the Company.
5. It is recommended that the company initiate an ongoing refresher-training programme for its skippers. At present, Skippers are the people responsible for training the crew in emergency situations, but nobody conducts training for them. This training could take the form of a tabletop exercise and/or practical training at a recognised training establishment.
6. It is recommended that the company include guidelines to its skippers in the Operations Manuals of their vessels, as to the factors to be taken into account when determining a safe operating distance off the coast. Such factors should include but not be limited to: weather, sea conditions, tide, manoeuvring characteristics, draft in relation to the available depth and width of navigable water, and traffic density. It is further recommended that the advice of the local Harbourmaster should be sought in this matter.