



Accident Report

Atlantis

Flooding

14m off Bergham Point, Near Doubtless Bay on 13 September 2004

KEEPING YOUR SEA SAFE FOR LIFE



Maritime Safety

MARITIME SAFETY AUTHORITY OF NEW ZEALAND
Kia Maanu Kia Ora



REPORT NO.: **04 3557**

VESSEL NAME: **ATLANTIS**

CASUALTY DETAILS:

Date of Casualty: 13 September 2004

Time of Casualty: 0945 hours New Zealand Standard Time (NZST)

Casualty Type: Steering Failure and Flooding

Casualty Location: North north west of Doubtless Bay

Weather Forecast Area: Brett

Investigator: Andrew Hayton



REPORT NO.: **04 3557**

VESSEL NAME: **ATLANTIS**

VESSEL DETAILS:

Ship Name:	<i>Atlantis</i>
Date of Build:	1972
Ship Category:	Fishing Vessel
Certified Operating Limit:	Restricted Coastal
Overall Length (m):	13.8
Maximum Breadth (m):	4.02
Gross Tonnage:	24
Flag:	New Zealand
Ship Operator:	Waipap Fishing Company
Classification Society:	Nortel

1. KEY EVENTS

- 1.1 On Sunday 12 September 2004, at approximately 1230 hours New Zealand Standard Time (NZST), the fishing vessel *Atlantis* departed Mangonui Harbour. Onboard were the Skipper and two crewmembers.
- 1.2 At approximately 1600 hours, *Atlantis* arrived in an area known locally as the Garden Patch, approximately 13 nautical miles north northwest of Cape Karikari. The Skipper and crew then began baiting their hooks.
- 1.3 Shortly after darkness fell, the Skipper set his bottom long line in a north easterly direction.
- 1.4 At approximately 2030 hours, the Skipper and his crewmen retired to their bunks for the night whilst *Atlantis* drifted.
- 1.5 On 13 September at approximately 0600 hours, *Atlantis* returned to her fishing gear and the crew started to haul their line.
- 1.6 At approximately 0945 hours, whilst a quarter of the way through hauling the line, the Skipper noticed that the helm was not responding.
- 1.7 The line was buoyed off and the Skipper decided to open the steering compartment hatch, timing the interval between waves in an attempt to keep the deck dry whilst the hatch was open. Because the hatch was flush with the deck, he recognised that he was taking a risk but determined that the safety of his vessel was at stake. The hydraulic ram on the steering gear had to be disconnected in order for the emergency steering system to be used, and the tiller was stowed in the steering compartment.
- 1.8 When the Skipper opened the hatch, he observed what he estimated to be approximately 100 litres of oily water in the compartment. Whilst the hatch was open, the sea washed across the deck and water entered the compartment through the open hatch. The hatch was then closed and dogged down.
- 1.9 The Skipper turned off the main engine to stop the loss of all hydraulic oil.
- 1.10 At approximately 0945 hours, the Skipper made a VHF (Very High Frequency) radio call to Far North Coastguard. He asked the coastguard operator to telephone the vessel's owner informing him that they had lost steering and required a tow back to port.
- 1.11 At approximately 1030 hours one of the owners of *Atlantis* left Mangonui onboard his other vessel *Sea Ranger*.

- 1.12** By approximately 1300 hours the stern had settled noticeably further. The Skipper again opened the steering compartment hatch and observed what he estimated to be approximately 20 centimetres of water below. The hatch was then closed and dogged down.
- 1.13** Shortly afterwards, the Skipper opened the hatch cover again and also unscrewed the tiller deck plug in order to lead the bilge discharge hose out onto deck through the tiller hole. The hatchcover was again closed and dogged but not before some more water had entered the space.
- 1.14** The Skipper put an adapted plastic bottle and rags around the bilge hose to try and stop water entering the space through the tiller hole.
- 1.15** The Skipper and crew hung gear over the bow of the vessel to try and keep her head into the wind in an attempt to keep seas from washing across the working deck.
- 1.16** Whilst the bilge pump worked initially, there was then no appreciable change in the water level. When the hatch was opened again, it was observed that the sloshing water had torn a wire off the pump rendering it inoperable. The hatch was closed and dogged and the tiller plug replaced but more water had entered the space in the meantime.
- 1.17** The Skipper and crew moved all fishing gear forward and shovelled approximately one tonne of ice from the fish hold overboard in an attempt to reduce the trim. They successfully constructed a ‘wall’ halfway along the working deck using their hook boards to try and stop the flow of water up the deck. The Skipper also pumped out the two fresh water tanks that were located in the steering compartment.
- 1.18** At approximately 1530 hours, the Skipper estimated the freeboard at the stern of *Atlantis* to be approximately three centimetres. In the hour that followed, the Skipper estimated that the stern settled a further 20 centimetres.
- 1.19** At approximately 1745 hours, *Sea Ranger* arrived at *Atlantis*’ position and found the stern to be underwater. She immediately took *Atlantis* under tow using ropes supplied by *Sea Ranger*. The crew of *Atlantis* remained onboard their vessel.
- 1.20** *Sea Ranger* towed *Atlantis* towards Burgin Point en route back to Mangonui. During the tow, situation reports were made from *Sea Ranger* to the Maritime Operation Centre every 30 minutes via radio.
- 1.21** At 2025 hours, the vessels’ position was 34° 40’S 173° 38’E. The towing speed was three knots and the wind was westerly 20 knots.

- 1.22** At approximately 2330 hours the towline parted. The line was reconnected approximately 15 minutes later in approximate position 34° 44'S 173° 37'E. The tow was resumed on a course of 186°(T) at a speed of 1.5 knots. At about this time, the skipper of *Atlantis* could no longer hear water sloshing in the steering compartment and the stern had settled further.
- 1.23** At 0109 hours, the two vessels were in position 34°47 S 173°35 E. *Atlantis* was stable and the weather was easing with 15 knot winds. The Skipper of *Sea Ranger* requested he make situation reports hourly.
- 1.24** At 0420 hours, the vessels' position was 34° 56'S 173° 30'E, course 210°(T) at a speed of 3.5 knots. The wind had eased to west southwest 10 knots.
- 1.25** At approximately 0515 hours, *Sea Ranger* and *Atlantis* arrived at Mangonui wharf. Work to pump out the flooded compartment commenced.

2. KEY CONDITIONS

2.1 Vessel Details

- 2.1.1** *Atlantis* is a coastal fishing vessel of steel construction. She was built in 1972 and has a length overall of 13.8 metres and a gross tonnage of 24. She had previously been operated as a tug.
- 2.1.2** *Atlantis* is operated by Waipap Fishing Company.
- 2.1.3** *Atlantis* had a valid Safe Ship Management (SSM) Certificate with Nortel Ltd. She was fit to ply as a fishing vessel within New Zealand Restricted Coastal Limit, within 100 miles of the coast including Stewart Island. A Nortel approved surveyor last inspected the vessel on 23 July 2004. Nortel gave the vessel two corrective actions, the compass needed adjusting and the EPIRB battery needed replacing. The vessel was also subject to a Maritime Safety Authority Flag State Inspection on 25 August 2004. The inspection found three deficiencies; there was no compass deviation card onboard, no radio certificate was sighted, and the engine room bilge alarm was not working.
- 2.1.4** *Atlantis* carried a six person inflatable liferaft and had four lifejackets onboard.
- 2.1.5** The Skipper of *Atlantis* remained in communication with either Far North Coastguard or *Sea Ranger* throughout the incident on VHF channels 6, 16 and 60. The Skipper also had weak mobile phone coverage throughout.
- 2.1.6** The steering compartment of *Atlantis* held approximately 10m³ of water when fully flooded.
- 2.1.7** The only access to the steering compartment was through the flush hatchway on the working deck.
- 2.1.8** The steering was lost due to a flexible hose on the steering ram splitting, resulting in a loss of hydraulic pressure.
- 2.1.9** The hatchway did not comply with the requirements of Maritime Rule Part 40.D.14 (*see paragraph 2.4.1*).
- 2.1.10** The steering compartment's 12-volt bilge pump failed due to an electrical wire being torn off by sloshing water.
- 2.1.11** The bilge pumping arrangements in steering compartment did not comply with the requirements of Maritime Rule Part 40.D.28 (*see paragraph 2.4.2*).
- 2.1.12** The hydraulic forces exerted by the water beneath it bent the dogs on the hatch cover, possibly loosening the cover and allowing water to enter.

2.1.13 The rubber gasket on the hatch cover was not completely stuck down around the entire inside edge of the cover.

2.1.14 The tiller was stowed in the steering compartment.

2.2 Manning Details

2.2.1 The Skipper was an experienced fisherman and had been Skipper of *Atlantis* for about 12 months. He held a valid Inshore Launch Master (ILM) Certificate.

2.2.2 Neither of the two other crewmembers possessed any formal maritime qualifications. Crewmember 1 was an experienced fisherman but it was Crewmember 2's first trip on a fishing boat. He was a friend of the Skipper's and came along on the voyage to see if he wanted to pursue a career in the fishing industry.

2.3 Weather Details

2.3.1 The wind at the time of the steering failure was 25 knots gusting to 30 knots from the northeast with about 2 to 2.5 metres of northeasterly swell. The wind eased during the tow becoming west southwesterly 10 knots with slight seas.

2.4 Maritime Rules

2.4.1 Maritime Rule Part 40D.14(5) **Hatchway openings and covers** states:- *The height above deck of hatchway coamings must be as given in table below.*

<i>Ship Length</i>	<i>Minimum height of coaming on working deck</i>	<i>Minimum height of coaming on superstructure deck</i>
<i>24 metres or less</i>	<i>600mm</i>	<i>300mm</i>
<i>12 metres or more but less than 24 metres</i>	<i>300mm</i>	<i>150mm</i>
<i>Less than 12 metres</i>	<i>150mm</i>	<i>Nil</i>

Where operating experience has shown justification, and on approval by the surveyor, and where the covers are other than wood, the height of the coamings may be reduced, or the coamings omitted entirely, provided that the safety of the ship is not thereby impaired. In such cases, the hatchway opening must be kept as small as practicable and the covers permanently attached by hinges or equivalent means. The covers must be capable of being rapidly closed, and battened down or otherwise secured by arrangements that are acceptable to the surveyor.

2.4.2 Maritime Rule Part 40.D.28 Bilge pumping arrangements states:-

(1) An efficient bilge pumping system must be provided that under all practical conditions must be capable of pumping from and draining any watertight compartment that is not a permanent oil or water tank whether the ship is upright or listed.

(6) In ships of less than 24 metres in length, the surveyor may permit at least one fixed heavy duty electrically driven submersible pump to be fitted in an individual watertight compartment in lieu of a piped suction. Where such submersible bilge pumps are fitted-

(a) In no case is the capacity of the fitted submersible bilge pumps in any one compartment to be less than 8metres³/hour; and

(c) Each submersible bilge pump is to be fitted with a float switch which automatically operates that pump or an audible alarm at the steering position. Any such float switch is to be protected from jamming by bilge debris; and

(d) Each submersible bilge pump is to have a visual alarm at the steering position to indicate that it is running; and

(g) There must be two sources of electrical supply on the ship which are capable of running the pumps in any one compartment for 12 hours; and

2.5 Witnesses

2.5.1 An independent witness who observed *Atlantis* arrive in Mangonui told the Investigator that the vessel was well down by the stern and that the fishing platform constructed at the stern was level with the water. If correct, this would mean that the stern was approximately 1 metre underwater. The vessels' owner disputes this claim.

3. CONTRIBUTING FACTORS

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

- 3.1 The sea state and the fact that the vessel was shipping seas over its working deck.
- 3.2 The tiller was stored in the steering compartment.
- 3.3 The decision of the Skipper to open the steering compartment hatch to investigate the steering failure, despite the weather conditions.
- 3.4 The bilge pumping arrangement within the steering compartment required the hatch to be opened to allow access to be made into the space and the bilge discharge hose to be led out through the tiller deck plughole.
- 3.5 The rubber gasket on the hatch cover was not completely stuck down around the entire inside edge of the cover.

4. CAUSE

Human Factor

<input type="checkbox"/> Failure to comply with regulations	<input type="checkbox"/> Drugs & Alcohol	<input type="checkbox"/> Overloading
<input type="checkbox"/> Failure to obtain ships position or course	<input type="checkbox"/> Fatigue	<input type="checkbox"/> Physiological
<input type="checkbox"/> Improper watchkeeping or lookout	<input type="checkbox"/> Lack of knowledge	<input type="checkbox"/> Ship Handling
<input type="checkbox"/> Misconduct/Negligence	<input checked="" type="checkbox"/> Error of judgement	

Environmental Factor

<input type="checkbox"/> Adverse weather	<input type="checkbox"/> Debris	<input type="checkbox"/> Ice	<input type="checkbox"/> Navigation hazard
<input type="checkbox"/> Adverse current	<input type="checkbox"/> Submerged object	<input type="checkbox"/> Lightning	<input type="checkbox"/> Other . . .

Technical Factor

<input type="checkbox"/> Structural failure	<input checked="" type="checkbox"/> Wear & tear	<input checked="" type="checkbox"/> Steering failure
<input checked="" type="checkbox"/> Mechanical failure	<input type="checkbox"/> Improper welding	<input type="checkbox"/> Inadequate firefighting/lifesaving
<input checked="" type="checkbox"/> Electrical failure	<input type="checkbox"/> Inadequate maintenance	<input type="checkbox"/> Insufficient fuel
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Inadequate stability	<input type="checkbox"/> Other . . .

4.1 The steering of *Atlantis* failed. The Skipper, believing his vessel to be at risk through having no steering, opened the flush hatch to the steering compartment to investigate and retrieve the tiller. The vessel shipped seas over the working deck and the steering compartment was flooded.

5. OPINIONS & RECOMMENDATIONS

5.1 Opinions

- 5.1.1** The first time that the hatch was open, more water entered the steering compartment than the Skipper estimated.
- 5.1.2** Opening a flush hatch when there is a risk that seas may break over the deck is a dangerous practice that should only be attempted when the safety of the vessel is at stake.
- 5.1.3** The owner was quick to realise what was required to prevent a repetition of this incident, and within a day of the vessel returning to Mangonui had arranged an engineer to attend the vessel in order to construct a 400mm raised coaming around the hatch. He was also planning to install a bilge pumping system within the steering compartment.

6.1 Recommendations

- 6.1.1** That the owners construct a coaming around the hatch that satisfies the requirements of **Maritime Rule Part 40D.14**, within two months of the release of this report.
- 6.1.2** That the owners install an efficient bilge system for the steering compartment that satisfies the requirements of **Maritime Rule part 40D.28**, within two months of the release of this report.
- 6.1.3** That the owners renew the hatch cover rubber gasket as soon as possible.
- 6.1.4** The Skipper should ensure that the tiller is stowed in an easily accessible location as soon as possible.
- 6.1.5** The Safe Ship Management Company, Nortel, should include a contingency plan within their SSM manuals for flooding situations.