MARITIME SAFETY AUTHORITY
OF NEW ZEALAND
Te Mana Ārai Hauata Moana o Aotearoa

Reduced steering

Incat 050

4/01/2000

Inbound, approaching the Wellington bar at about 20 knots to the west of the leads with a following sea and ebb tide. The conditions caused the vessel to yaw and so the Master tumed around and approached at 28 knots on the leads. The second attempt was successful.

Report Completion Date: 20/01/2000

Report No: 99 2271 **Ship Name(s):** Incat 050

Key Events

1.1 At 0715 hours on Tuesday 4.1.00, the passenger ferry Incat 050, known as Topcat, sailed from Wellington to Picton in seas that the Master estimated had a significant wave height of between 3 and 4m with the wind from the south.

1.2 At 1015 hours, the vessel was scheduled to leave Picton but was a little late, having lost time on the previous passage.

13 At 13 15 hours, the vessel was scheduled to leave Wellington but was a little late due to a heavy loading at Picton and the accumulation of lost time as a result of the Master having slowed down on previous tips to ease the vessel's movement in a southerly wind.

1.4 At 1642 hours, Metservice issued a forecast for Topcat, received at about this time on the bridge of the vessel, indicating that at 1700 hours the significant wave height would be 4.5m easing to 3.5m on Wednesday morning.

1.5 At 1700 hours, the vessel left Picton, forty five minutes behind schedule largely due to a an accumulation of lost time throughout the day.

1.6 At about 1700 hours, the 2030 hours sailing from Wellington was cancelled by the Master who telephoned the Marine Manager to inform him of his decision. The Marine Manager infromed the Terminals and the CEO. The sailing was cancelled due to the 4.5m significant wave height. The Marine Manager stated that tie sailing was cancclled owing to "the forecast 4.5m significant wave height which may have been generated by the time of the 2030 hours sailing, as the wind was continuing to build."

1.7 At 1817 hours, the Master called Beacon Hill Radio station giving his ETA as 1915 hours and he received an acknowledgement that included an estimate of the significant wave height as being "3.5m at the entrance".

1.8 On arriving at Sinclair Head, the Master noticed a deterioration in the weather. According to the Marine Manager, the waves were at a significant wave height of about 4m at this juncture. He obtained this information from the Master at his debriefing.

1.9 At a position 3 nautical miles south of Barrett Reef Buoy, the Master altered course from 070°(T) to 040°(T). He continued to bring the vessel round to port until, at a point south of Pencarrow Head Light House but slightly west of the leading lights, he had reached 025°(T).

1.10 As the vessel approached Pencarrow Head Light House, course was steadied on 020°(T) and the speed was estimated by the Master to have been about 20 knots,

1.11 At 1904 hours, a larger than average swell caused a severe port yaw and a further yaw back to starboard,

1.12 'With the vessel in position 41" 21.7' S 174° 50.1' E (about 0.47 nautical miles from Barrett Reef Buoy), the Master aborted his attempt to enter the harbour and continued the turn to starboard and steadied on a course out of the harbour until he was about 1.5 nautical miles south of Barrett Reef Buoy. At that point he turned round again and lined up for a second attempt at entering the harbour.

1.13 He increased the speed to 28 knots and found the vessel more manageable on this second approach. The vessel entered harbour satisfactorily at this attempt.

Key Conditions

2.1 The Master was David J. Cass. He holds a Foreign Going Master's Certificate No. 2357 issued on 6.1.75 in New Zealand. He holds a High Speed Navigation Certificate issued on 6.5.99 and has accumulated 9 months service on high speed craft.

2.2 The vessel is a high speed, so called "wave piercing" catamaran operated by Fast Cat Ferries Ltd and registered in Nassau, Bahamas. Her Permit to Operate limits her operation to the route between Wellington and Picton and she is to be no more than 100 miles from a port of refuge.

2.3 The Permit to Operate High Speed Craft was issued under the authority of the Commonwealth of the Bahamas by the Maritime Safety Authority of New Zealand on 27 August 1999 and this was valid to 15 February 2000. It contained a clause that "the craft shall not put to sea if the significant wave height on passage exceeds or is predicted to exceed 4.0 metres."

2.4 According to the Master, the significant wave height had, in his opinion, been less than 4m between Sinclair Head and Tory Channel entrance consistently throughout the day.

2.5 At 1042 hours, the Metservice had issued a forecast for Topcat that had the significant wave height was '"About 4m, slowly rising to 4.5m throughout the day."

2.6 At 1642 hours, (18 minutes before the vessel's departure from Picton) the Metservice issued a forecast for Topcat that the significant wave height as "4.5m easing to 3.5m Wednesday morning."

2.7 The Master was thus technically in breach of this clause because of the 4.5m forecast at 1642 hours. He claims that his experience of the wave height on his previous voyages that day was a more reliable guide. Indeed, the report from Beacon Hill at 18 17 hours, that the height of the waves at the entrance were 3.5m, tends to reinforce his point.

2.8 High tide at the entrance to Wellington Harbour was predicted to be at 1616 hours NZDT and there was southerly wind rising to 35 knots forecast by Metservice for the night of Tuesday 4 January. So at 1904 hours, when the vessel was abeam of Barrett Reef Buoy and not handling as the Master would have liked, the ebb tide against the southerly wind, the limited depth at the harbour entrance at that point and the speed of 20 knots, all conspired to produce very difficult conditions.

2.9 The normal course on approach to Wellington is 090"(T) and then a turn to port onto the leads. The Master took the 070°(T) course, having made due allowance by coming further south of Sinclair Head, to ease the uncomfortable ride that the weather was giving the passengers. He slowed down to 20 knots for the same reason.

2.10 There were 580 passengers on board. A small number of them complained to the Maritime Safety Authority that they were not informed of the reason for the vessel having turned round. In fact, 10 passengers contacted the Maritime Safety Authority. Five of them complained that they were not informed of what was happening and one of those questioned whether the vessel should have sailed though admitting that she had limited knowledge. One was critical of the vessel's position when she turned. The remaining four were appreciative of the way the Master handled the vessel.

2.11 There was no damage sustained to the boat and nobody was injured.

2.12 There were no mechanical or technological failures.

2.13. The Metservice weather report for Tranzrail contains information from the waverider buoy that Tranzrail lease from the National Institute of Water and Atmospheric Research relating to the significant wave height and the highest wave in the last 4 hours, Specifically, the 1649 hours report has a significant wave height of 4.4m and a highest wave of 7. lm. This information is not transmitted to Topcat.

2.14 The Marine Manager produced significant wave height figures comparing MetService forecasts with observations from Incat 050 over a 36 how period during 2 and 3 January. The latter arc established by a combination of visual *estimation and a recording device on the vessel. The wave heights estimated on the part of the MetService appear to vary by amounts from 0.2m to 0.75m above the operator's own estimates.

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Contributing Factors

3.1 The ebb tide against the southerly wind estimated at 1600 hours by Beacon Hill Radio Station staff to have been blowing from a direction of 200°(T) at 22 to 44 knots.

3.2 The significant wave height of approximately 4m.

3.3 The reducing depth at the harbour entrance at a point abreast of Barrett Reef.

3.4 The speed of 20 knots.

3.5 The non-availability of useful wave height information to Incat 050 from the wave rider buoy.

3.6 The lack of confidence that Incat 050 Masters have in the Metservice wave height forecasts that are dependent. *inter alia*, on computer generated models. This uncertainty is underlined when the Masters themselves have recently experienced the actual weather as differing from that forecast in the affected area.

Causes

Human Factor

- ☐ Fake to comply with regulations
- ☐ Failure to obtain ships position or course
- ☐ Improper watchkeeping or lookout
- ☐ Lack of knowledge
- ☐ Drugs and Alcohol
- ☐ Fatigue
- ☐ Physiological
- ☒ Ship Handling
- ☐ Overloading
- ☐ Misconduct/Negligence
- ☐ Error of Judgement
- ☐ Other...

Environmental Factor

- ☒ Adverse weather
- ☐ Adverse current
- ☐ Debris
- ☐ Submerged object
- ☐ Ice
- ☐ Lightning
- ☐ Navigation Hazard
- ☐ Other...

Technical Factor

- ☐ Structural failure
- ☐ Mechanical failure
- ☐ Electrical failure
- ☐ Corrosion
- •J Wear and tear
- ☐ Improper welding
- ☐ Inadequate maintenance
- ☐ Inadequate stability
- ☐ Steering failure
- ☐ Inadequate firefighting/lifesaving
- ☐ Insufficient fuel
- ☐ Other...

4.1 The ebb tide against a southerly wind and the reducing depth at the Wellington Harbour entrance conspired to cause the Incat 050 to yaw in such a manner as to persuade the Master to abandon his first attempt to enter and to make a second attempt at a different speed and on a different approach course.

Opinions and Recommendations

5.1 The three Incat 050 Masters should meet as a matter of routine on a regular, say monthly, basis to share their experiences and discuss the most beneficial solutions to any difficulties or problems that have arisen since the last meeting. Such incidents should be recorded in the deck log book when they occur and the entries used as a basis for discussion. Sharing weather information with Tranzrail ferry Masters should be encouraged by the managements of each organisation for the mutual benefit of all.

5.2 Topcat Management to explore the possibility of obtaining more accurate significant wave height information where it is critical at the Wellington Harbour entrance. e.g. Obtain their information from another source and liaise with Tranzrail, the Port Company and Wellington Regional Council to determine if wave nder buoy information can be made available to all and to explore the feasibility of moving the buoy to a position closer to the critical area.

5.3 The Master did not inform the passengers that he had aborted his first attempt to enter the harbour but that they should not be concerned for their safety because he had matters under control. Had he kept them informed it would have allayed the fears of those passengers who were frightened and in any case should have been a matter of routine. Passenger welfare is a safety concern - it is not simply a public relations matter. It is recommended that Topcat Management develop standard phrases and put in place procedures as to wheu these phrases are to be used and by whom so that the Master may devote his or her attention to the task of handling the ship

5.4 At the next renewal or re-issue of the Permit to Operate, the Operations Division of the Maritime Safety Authority should re-examine the wording of the Permit to Operate and amend it so that it is made clear exactly how the significant wave height is to be predicted and by whom. Further, that a clause bc inserted into the Permit to Operate to indicate that the Master will risk prosecution under section 65 of the Maritime Transport Act if he sails from port when the significant wave height stipulated in the Permit to Operate is exceeded.

5.5 It is frequently possible during the day to alter course to ameliorate the effects of above average wave trains when they can be identified visually. It came to light during the interviews that the Masters find it difficult to avoid such wave trains when they cannot see them coming at night.

Although it was not a factor in this incident, it is recommended that when tbe Permit to Operate is next renewed by the Operations Division of the Maritime Safety Authority, they consider adjusting the significant wave height limit referred to in clauso 12.3 of the Permit to account for the lack of visual warning of approaching waves or for Topcat and Tranzrail managements to research the practicality of infra red enhanced visual aids being provided for the Masters and Oficcrs of the Watch on fast ferries, This to be done in consultation with the Masters of both Tranzrail and Topcat fast ferries.