Report 00-204

refrigerated cargo carrier *Caribic*

grounding

Tauranga

7 May 2000

Abstract

On Sunday 7 May 2000, at about 2000 hours, the refrigerated cargo carrier, *Caribic*, departed Tauranga with 10 crew and a harbour pilot on board. The vessel successfully negotiated the Cutter Channel and turned to starboard to round Mount Maunganui into the departure channel. The rate of turn became excessive and the master and pilot were unable to reduce it sufficiently to prevent the vessel grounding inside Tanea number 2 buoy. The vessel was refloated and returned to its berth assisted by 2 harbour tugs. There were no injuries but the vessel suffered moderate hull bottom damage.

Safety issues identified included:

- the crewing level on the bridge of the *Caribic*
- the inability to fulfil the principles of bridge resource management
- serviceability of navigational and monitoring equipment on board the *Caribic*
- a critical manoeuvring characteristic of the vessel was not adequately conveyed to the pilot.

Safety recommendations were made to the technical director of Seatrade Groningen B.V., the chief executive of Port of Tauranga Limited and to the chief executives and harbourmasters of all Regional Councils to address the safety issues.

The Transport Accident Investigation Commission is an independent Crown entity established to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future. Accordingly it is inappropriate that reports should be used to assign fault or blame or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

The Commission may make recommendations to improve transport safety. The cost of implementing any recommendation must always be balanced against its benefits. Such analysis is a matter for the regulator and the industry.

Transport Accident Investigation Commission
P O Box 10-323, Wellington, New Zealand
Phone +64 4 473 3112 Fax +64 4 499 1510
E-mail: reports@taic.org.nz Web site: www.taic.org.nz

photograph courtesy of Seatrade New Zealand

Caribic

Contents

Figures

Abbreviations

AB	able-bodied seaman
BRM	bridge resource management
kW	kilowatt
m	metre(s)
mm	millimetre(s)
MSA	Maritime Safety Authority
SOLAS	International Convention for Safety of Life at Sea
STCW	International Convention on Standards of Training, Certification and Watchkeeping
t	tonne(s)
UMS	unattended machinery space
UTC	universal time (co-ordinated)
VHF	very high frequency

Glossary

abeam	direction at right angles to the length of a vessel
aft	rear of the vessel
amidships	position of the rudder when it is in the fore and aft line and has no turning effect
ballast	weight, usually sea water, put into a vessel to improve stability
bridge	structure from where a vessel is navigated and directed
class	category in classification register
command	take overall responsibility for the vessel
deadweight	total weight of cargo, stores, fuel and ballast carried by a vessel at its maximum permitted draught
deckhead	nautical term for ceiling
double bottom	tank at the bottom of a vessel formed by the inner and outer bottom plating of the hull
draught	depth in water at which a vessel floats
flood tide	rising tide
gross tonnage	a measure of the internal capacity of a vessel; enclosed spaces are measured in cubic metres and the tonnage derived by formula
knot	one nautical mile per hour
leading light(s)	light(s) that identifies the safest track in a channel
leeway	distance a vessel is forced to leeward of its course by the action of wind
list	angle of tilt caused by internal distribution of weights
port	left-hand side when facing forward
set	distance a vessel is forced off its course by the action of tide or current
sounding	measure of the depth of a liquid
starboard	right-hand side when facing forward
telegraph	device used to relay engine commands from bridge to engine room
tiller	lever by which steering is effected

Data Summary

Vessel particulars:

Name:	*Caribic*
Type:	refrigerated cargo carrier
Classification:	Lloyds Register of Shipping
Class:	+100A1 UMS
Length (overall):	113.65 m
Breadth (extreme):	16.33 m
Summer draught:	8.31 m
Gross tonnage:	4683 t
Deadweight:	6697 t
Construction:	steel
Built:	Scheepswerven v/h Gebr. Van Diepen Waterhuizen Holland in 1993
Propulsion:	one 5400 kW MAK 8M552C diesel engine driving a single controllable pitch propeller
Service speed:	16.5 knots
Owner:	B.V. Sheepvaartonderneming Caribic
Manager:	Seatrade Groningen B.V.
Operator:	Seatrade Reefer Chartering N.V.
Registry:	Groningen, The Netherlands

Persons on board: crew: 10
pilot: 1

Injuries: nil

Damage: slight to moderate contusions in hull bottom

Location: Port of Tauranga

Date and time: Sunday, 7 May 2000 at about 2020[1]

Investigator-in-charge: Captain John Mockett

[1] All times in this report are in New Zealand Standard Time (UTC +12) and are expressed in the 24-hour mode.

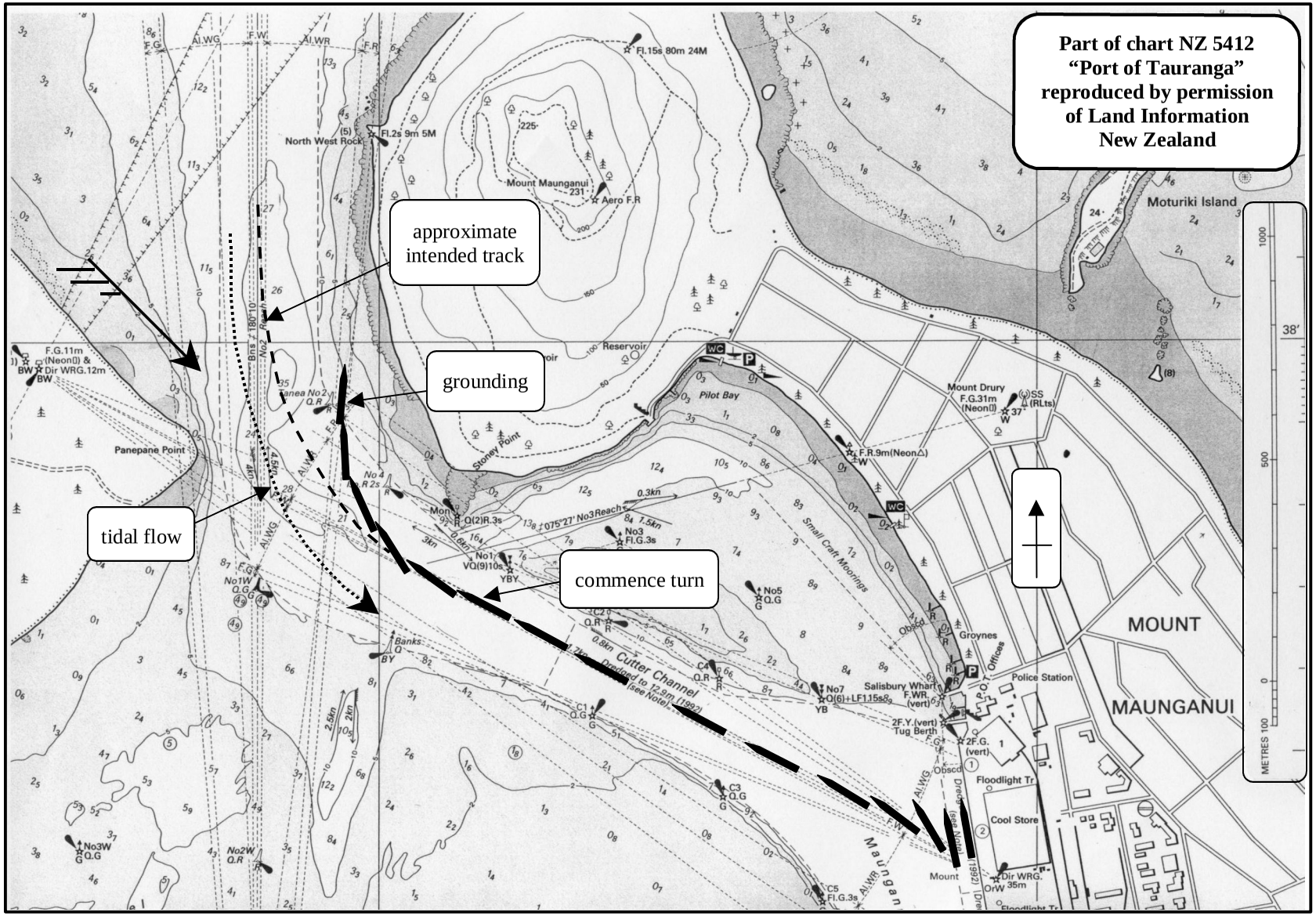

Figure 1
Part of chart NZ 5412 showing track to grounding

1. Factual Information

1.1 History of the trip

1.1.1 On Sunday 7 May 2000 at about 1245, the *Caribic* completed cargo operations at number 1 berth in the Port of Tauranga. In order that maintenance work could be completed before departure for Europe, the master requested a pilot for 2000 that night. For port operational reasons the vessel was shifted from number 1 berth to number 2 berth during the afternoon (see Figure 1).

1.1.2 By about 1930 the second officer and first engineer had readied the bridge and the engine-room for sailing. They tested all the appropriate equipment and noted nothing untoward.

1.1.3 At 2000 a Port of Tauranga pilot boarded the *Caribic*. The pilot and the master discussed the departure plan and the characteristics of the vessel. The master already had a port information sheet that had been given to him on arrival. He gave the pilot a departure pilot information card showing the vessel particulars and current condition. For departure the bridge was manned by the master and pilot. The deck officers and ratings were stationed forward and aft for letting go.

1.1.4 The master was steering the vessel using a small tiller. He was also operating the controls for the engine and bow thruster, and was monitoring the passage visually and by a radar that was situated immediately to his right (see Figure 2).

1.1.5 The weather at the time was a north-westerly wind of 20 to 25 knots and reduced visibility in passing showers. Both the master and pilot stated that they were able to see the leading lights and at least the next set of buoys marking the departure passage.

1.1.6 The time of letting go the last line was recorded as 2006. The vessel, which had been starboard side to the berth, was moved bodily off the wharf using the bow thruster forward and a harbour tug aft. Once off the wharf the pilot ordered the tug to hold the stern in position while the bow thruster was used to align the vessel with Cutter Channel. As the swing progressed, the pilot ordered the helm hard to port and the engine to dead slow ahead to assist the swing and to move the vessel forward into the channel.

1.1.7 Once the vessel was in the channel and established on the leading lights, the tug was let go and dismissed and the bow thruster put to neutral, but left running. The pilot instructed the master to steer a course of 297 degrees and to increase engine power to slow ahead. As the *Caribic* moved along Cutter Channel, the pilot noted that the indicated speed was 7 knots on the Global Positioning System (GPS). A tide gauge set in the channel at the entrance was not working and tidal information was taken from calculated predictions. The maximum predicted rate of flood was 3.52 knots at 1957 with the rate remaining at 3.5 knots until 2017. The time of high water was 2156. The skipper of the pilot launch confirmed to the pilot that the rate of flood was about 3.5 knots.

1.1.8 When the *Caribic* was abeam of number 1 beacon, the pilot ordered 10 degrees of starboard helm to commence the turn into number 2 Reach. Referring to the tide, the pilot recalled “there was a good three and a half knots through there”. The vessel began to swing to starboard and as it was approaching number 4 buoy the pilot ordered the helm amidships to reduce the rate of turn that had become higher than he had intended. The pilot then ordered 10 degrees of port helm as the rate of turn was not reducing enough.

1.1.9 The pilot recalled the helm indicator showing amidships but then returning to 10 degrees to starboard, reminding the master that port helm was required, and ordering hard to port. He recalled that at no time did the rudder indicator move into the port sector and that at some stage the master told him that the rudder was not answering the port helm.

1.1.10 The master recalled that when both he and the pilot realised that the rate of turn was too high, the pilot ordered amidships, followed by 10 degrees to port, 20 degrees to port and then hard to port. The master stated that he followed the pilot's orders and applied the appropriate helm, to which the rudder indicator responded although somewhat slowly. The master stated that he had told the pilot that the vessel was not responding to the rudder, although he had noticed that the rate of turn appeared to reduce.

1.1.11 As the vessel began the turn to starboard, the second officer arrived on the bridge having secured the mooring deck aft and rigged the starboard pilot ladder. He recalled the vessel seeming to him to be on the starboard side of the channel and the pilot giving helm orders of 10 degrees to port, 20 to port and hard to port. He stated that he saw the master apply port helm on the tiller and saw the rudder indicator showing port helm but he was unsure to what degree.

1.1.12 The vessel continued swinging to starboard and with number 4 buoy close to starboard the Tanea number 2 buoy soon appeared fine on the port bow. To increase the effectiveness of the port rudder, the master increased engine power to between half and full ahead. The master turned on the second steering gear and put the bow thruster to full port thrust.

1.1.13 Despite the actions taken by the master and pilot, the *Caribic* grounded at about 2020 with Tanea number 2 buoy close to port alongside the bridge. The propeller was put to zero pitch, the bow thruster stopped and the steering motors turned off. The vessel settled with a port list of 2 to 3 degrees.

1.1.14 For departure the chief and first engineers had been on duty in the engine-room. Shortly after leaving the berth, there were some cargo temperature alarms and the chief engineer left the first engineer to monitor the engine-room while he went to investigate.

1.1.15 During the departure there were some main engine alarms indicating temperature deviations between the units of the engine, but there were no alarms concerning the steering gear recorded in the engine-room and none sounded on the bridge during departure.

1.1.16 The chief engineer was in one of the cargo control rooms on deck when he felt the *Caribic* grounding. He immediately returned to the engine-room. By the time he arrived the engine was running but with the propeller at zero pitch. The only alarm activated had been a low level alarm in the oil header tank for the controllable pitch propeller gear box. That alarm had activated during the grounding.

1.1.17 The master instructed the chief engineer to sound the fuel and ballast tanks to ascertain if any had been breached. He instructed the chief and second officers to rig lights overside and watch for any pollution. He then used his mobile telephone to inform the local agent, the regional manager in Auckland and the owner in Holland of the grounding.

1.1.18 Meanwhile the pilot used his mobile telephone to inform the manager of marine services through port operations, the harbourmaster and the Maritime Safety Authority (MSA) of the grounding and called the harbour tugs on very high frequency (VHF) radio to proceed to the *Caribic*.

1.1.19 The pilot launch had been in the area ready to disembark the pilot and came to the *Caribic* to inspect around the vessel looking for any signs of pollution. The 2 harbour tugs proceeded to the *Caribic* and the pilot instructed the *Te Matua* to make fast at the bow and the *Kaimai* to stand by aft.

1.1.20 When the manager of marine services arrived at the customer service centre he contacted the pilot to see if his assistance was required on board. The pilot indicated that it was and sent the pilot launch to pick him up.

1.1.21 When the manager of marine services arrived on board he first ascertained that the pilot felt able to continue his duties and then discussed the situation with the master and pilot.

1.1.22 The master, pilot and manager of marine services agreed on a course of action to try to refloat the vessel on the rising tide. The indications were that the *Caribic* was aground forward and on its starboard side and that there was no pollution to indicate that the hull had been breached. The master instructed the chief engineer to empty ballast from numbers 1 and 2 starboard double bottom and wing tanks to lift the bow and starboard side.

1.1.23 The tug *Kaimai* was made fast right aft. The manager of marine services noticed that the rudder indicator was showing hard to port so he asked the master to put the rudder amidships. The master informed him that the steering gear had been turned off shortly after the vessel grounded. The master turned the steering gear on and, with the tiller centred, the rudder indicator returned to amidships.

1.1.24 At about 2140, about 20 minutes before high water, the tug *Kaimai* was instructed to pull right astern, building up to full power, while the vessel's engine was run up to full astern. The tug *Te Matua* was positioned at the bow with a tight line to control the bow. The vessel did not move and after 10 minutes this attempt was abandoned.

1.1.25 The tug *Te Matua* was let go forward and made fast aft alongside the *Kaimai*. At about 2155, just before the time of high water, both tugs pulled right astern, building up to full power, and the vessel's engine again run up to full astern. After a few minutes the vessel moved astern and floated free and took up a port list of about 5 degrees.

1.1.26 Although the predicted time of high water in the port was 2156, there was still a flood tide running at a predicted rate of 2 knots at the entrance. The tug *Kaimai* was stopped and the tug *Te Matua* towed the stern to port with the bow thruster thrusting full to port to keep the bow away from number 4 buoy. Once the bow cleared number 4 buoy, the bow thruster was put full to starboard to turn the vessel into Cutter Channel.

1.1.27 The *Caribic* had sternway resulting from the refloating and was also being set to the south by the tidal flow. When the vessel was clear of number 4 buoy and still moving astern the engine was run ahead and the helm put hard to starboard. The vessel came close to Banks buoy before the movement to the south was arrested.

1.1.28 The *Caribic* began moving ahead clear of Banks buoy and had to be manoeuvred into Cutter Channel. The pilot ordered the helm hard to port. The master put the tiller over to port and recalled later that the rudder indicator moved erratically to port. The pilot and manager of marine services recalled that the rudder indicator did not move to port. However, the vessel did begin to swing to port as if reacting to port rudder. To subsequently steady the vessel up in the channel, starboard helm was used.

1.1.29 Once established in the channel, the *Caribic* was manoeuvred back to berth number 2 using engine movements and the tugs. No further helm orders were given. The master instructed the chief engineer to refill the ballast tanks that had been emptied to aid refloating. Those tanks were refilled and the vessel returned to upright before berthing.

1.1.30 As soon as the *Caribic* was berthed, the manager of marine services left the vessel to confer with the harbourmaster and to instruct the crew of the pilot launch to look around the vessel again for signs of pollution.

1.1.31 Before leaving the vessel, the pilot asked the master to put the tiller to 10 degrees to port to see if the rudder indicator moved. The pilot stated that there was no movement of the indicator.

1.2 Post-grounding inspections

1.2.1 On Monday 8 May 2000 an in-water survey was carried out by Bay Underwater Services to find the extent of the damage sustained in the grounding. The summary of the findings was as follows:

> On inspection we were unable to locate any folds, creases or cracks. This is verified by video footage.
>
> The damage is limited to mainly slight contusions, but there are three individual areas that were singled out as being worse than the others. The worst damage occurred on the starboard side of the vessel, 95 metres forward of the stern.
>
> There is generally no port side damage, except for very minor contusions at the 35 to 50 metres forward marks.
>
> Our team also inspected the sea chests, bow thruster, prop and rudder. No abnormalities were detected. They were all found to be clean and free from any damage.

1.2.2 In the report, the worst area of damage at 95 metres from the stern was described as a 3-metre long contusion; a metre wide and 40 mm deep. The other contusions specifically mentioned in the summary were smaller and 20 mm and 15 mm deep.

1.2.3 The *Caribic* was classified by Lloyds Register of Shipping (Lloyds). Based on the report, the Lloyds surveyor issued an interim class certificate noting a condition of class that the hull damage had to be:

> examined and specially examined and dealt with by 6/00.

1.2.4 The Lloyds surveyor and the chief engineer took main engine deflections to check that there had been no misalignment of the engine during the grounding. The deflections were as previously recorded, indicating nothing untoward.

1.2.5 The Lloyds surveyor and the MSA surveyor required tests to be conducted on the steering gear. The tests involved observing the mechanical operation of the steering gear and recording the time taken for the rudder to move from amidships to hard over, from hard over one side to hard over the other side, and from hard over back to amidships. The tests were made for each steering motor and measured against standards set by legislation.

1.2.6 The tests were conducted on 8 May 2000 with the master operating the tiller on the bridge and the chief engineer in the steering flat. The Lloyds surveyor and a commission investigator observed in the steering flat while another commission investigator observed the performance of the rudder indicator on the bridge.

1.2.7 The surveyor concluded that the steering gear was in good condition and was mechanically sound. The times recorded during the tests were within legislative requirements. The travel of the rudder was originally designed to reach 45 degrees each side. At some time mechanical stops had been fitted to restrict the movement to 38 degrees each side, but the rudder indicator still showed the hard-over position to be 45 degrees.

1.2.8 The movement of the rudder indicator was jerky and erratic and was slow to follow the rudder. When the rudder moved away from the indicated position, the indicator initially "hunted" before slowly following the rudder. The master stated that the indicator had been that way for some time and that he informed the pilot before departure. The pilot, however, stated later that the master had not told him of any problem with the indicator.

1.2.9 The Lloyds surveyor required that before the vessel could depart, the indicator was to be repaired so that it faithfully followed the smooth movement of the rudder and remained aligned with it at all angles.

1.2.10 The appropriate electrical drawings were not on board but were faxed later in the day from the owners in Holland. The chief engineer made the required adjustments to the indicator and the Lloyds surveyor returned to the vessel at about 0200 on 9 May to conduct a second test. The surveyor was satisfied that the indicator was then reading correctly and lifted the departure restriction. The *Caribic* departed Tauranga at about 0300 bound for Europe.

1.3 Vessel information

1.3.1 The *Caribic* was a 3-hold refrigerated cargo carrier capable of carrying containerised, palletised or bulk cargo. The vessel operated under a safety management system. The owners held a valid Certificate of Compliance and the vessel a valid Document of Compliance issued by the International Ship Managers Association. The vessel had not previously called at Tauranga.

1.3.2 The bridge of the *Caribic* was fitted out for single watchkeeper operation and had the appropriate certification to that effect.

1.3.3 At the steering position, the controls for the engines, bow thruster, steering motors and internal communication system were within easy reach. The steering gyro compass repeater, autopilot controls, 2 radars and various gauges and indicators were set into the panel in front and either side of the steering position. The rudder indicator was set into the deckhead in front of the steering position and was multi-sided to enable it to be viewed from anywhere in the bridge. The VHF was set into the port side panel (see Figure 2).

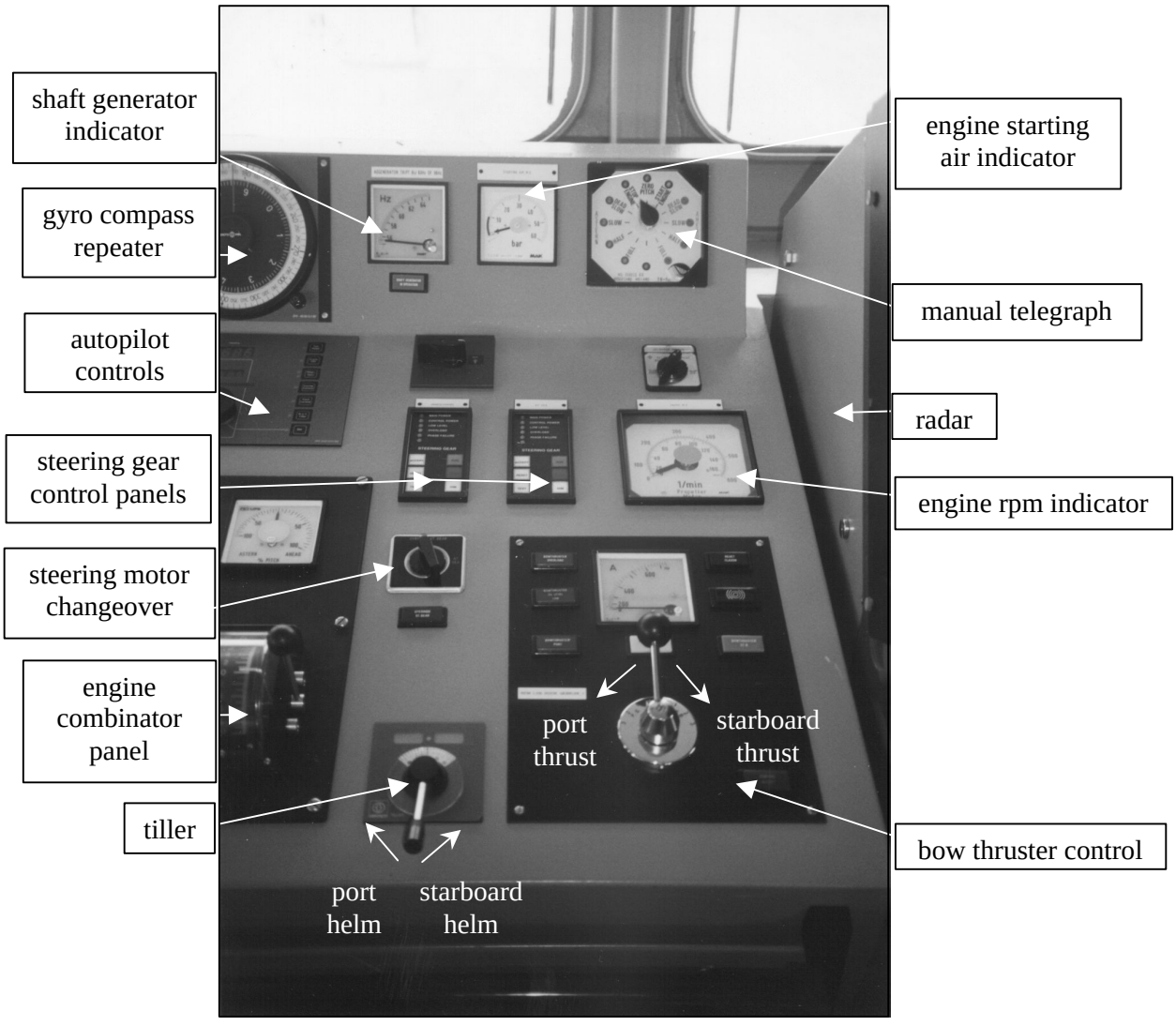

Figure 2
Controls and indicators at steering position

1.3.4 There was no surface available at the steering position to place a navigational chart within sight and reach of the person steering and operating the other controls.

1.3.5 The steering tiller was of the "follow-up" type, which meant that it was simply pushed in either direction to the required angle and left there. The rudder would then move until it lined up with the tiller. There was little resistance in the tiller movement and only a relatively small amount of movement was required to achieve a hard-over rudder angle.

1.3.6 The steering gear was of the rotary vane type. There were 2 steering motors; number 1 being a large motor used while manoeuvring and number 2 being half the size and used at sea. The motors were capable of being used together but were normally used individually.

1.3.7 The master stated later that the *Caribic* was normally slow to react to applied rudder but once turning, the rate of turn would become fast.

1.3.8 The operator later confirmed that:

> specific for the Caribic the rudder response, albeit well known ever since the vessel started operating and accepted and dealt with by the crews sailing her, is slower than on other vessels of the same size within our fleet.

1.3.9 The master gyro compass was observed to be 20 degrees low. The master stated that the error had existed since new and was taken into account when setting up the various gyro repeaters. The repeaters at the steering position, on the radars and on the port bridge wing read true but the repeater on the starboard bridge wing was not working.

1.3.10 There was no course or engine movement recording equipment installed on the bridge

1.4 Port information

1.4.1 Pilotage in the Port of Tauranga was compulsory for all vessels over 100 gross tonnage unless the master held a pilotage exemption. The port operated on a 24-hour basis although there were restrictions on the movements of certain vessels.

1.4.2 Vessels over 125 m were restricted to tidal windows appropriate for their class and dimensions. Maximum draughts for vessels arriving or departing were 13.0 m at high water and 11.7 m at low water. The *Caribic* was at a draught of 6.2 m forward and 6.8 m aft and, having a length of 113.7 m, was able to depart at any state of the tide.

1.4.3 Any decision to restrict the movement of a vessel because of reduced visibility or high winds was made jointly by the attending pilot and the master. On the evening of 7 May 2000 neither the pilot nor the master considered the weather conditions warranted delaying the sailing.

1.4.4 The port employed 6 licensed pilots who worked under the direction of the manager of marine services, who was himself a licensed pilot. The manager of marine services could also call on the container terminal manager, who was also a licensed pilot. The pilot duty roster rotated the 6 pilots so that 3 were available at any one time but individual pilots worked one week on, one week off, 2 weeks on and then one week off. Those pilots rostered on duty were nominated as first, second and third call. The system was designed so that each duty pilot would be able to have a break of at least 8 hours each day.

1.4.5 The customer service centre, situated within the port, had an operations room, which was manned on a 24-hour basis. There was a radar station on Mount Drury with a monitor in the operation room. The main purpose of the radar was to observe the movements of arriving vessels outside the port. It did however monitor certain areas within the port. The radar had a recording facility but the recording covering the departure of the *Caribic* was not clear, being mostly obscured by rain clutter.

1.4.6 The wind direction and strength were automatically recorded on a graph trace and provided accurate records of the conditions on the evening of the grounding.

1.4.7 The hand-written logs kept by the operations staff supported the times recalled by the pilot and the crew of the *Caribic*.

1.5 Personnel information

1.5.1 At the time of the grounding, the crew of the *Caribic* comprised master, chief officer, second officer, deck cadet, bosun, one able-bodied seaman (AB), chief engineer, first engineer, second engineer and a cook; a total of 10. The master and chief engineer were Dutch, the other officers and the bosun Russian, the AB Latvian and the cook Sri Lankan. The crewing level exceeded that required by the Safe Manning Document by one engineer and the cook. Of the crew spoken to, none indicated any communication difficulties despite the mix of nationalities serving on board.

1.5.2 The master had commenced his sea-going career in 1982 and had been employed by Seatrade throughout. He spent one year as AB before spending 6 years as second officer and 2 years as chief officer. He was promoted to master in 1990. He held a Dutch Master Mariner certificate allowing him to command vessels up to 9000 gross tonnes.

1.5.3 The master had served previously on the *Caribic* having completed tours of duty in 1996 and 1997. He had rejoined the vessel in Pusan on 11 March 2000.

1.5.4 The pilot commenced his sea-going career in 1972. He spent 12 years at sea gaining his Master Mariner certificate before being employed from 1984 to 1992 as pilot/tug master with Port Otago. He had been employed as a full-time pilot in the Port of Tauranga since 1992. He had not attended bridge resource management (BRM) training; only one of the current pilots working the port had done so.

1.5.5 Both the master and pilot later stated that they had no difficulty communicating with each other. The master had a good command of the English language.

1.6 Routines

1.6.1 When the *Caribic* was at sea or at anchor, the master stood the 8 to 12 navigational watches. The first officer stood the 4 to 8 watches and the second officer stood the 12 to 4 watches. In port, the first and second officers shared the cargowork watches while the master dealt with port authorities, company and agency officials, and general ship's business.

1.6.2 The *Caribic* arrived in New Zealand from Japan on Tuesday 2 May 2000, anchoring off the port of Whangarei at about 1100. It remained anchored until Thursday 4 May at 0800 when the local pilot boarded to berth the vessel. The *Caribic* remained alongside until Saturday 6 May. The master stated that he had had a full and restful sleep on both the Thursday and Friday nights. The *Caribic* departed from Whangarei and was clear of the port by 1730 on Saturday 6 May, bound for Tauranga.

1.6.3 The master rested before standing the evening 8 to 12 navigational watch. When the second officer relieved him at midnight, he slept until about 0315, at which time he returned to the bridge for arrival at Tauranga.

1.6.4 The *Caribic* arrived at the Tauranga pilot station to embark a pilot at about 0420 and the vessel was tied up alongside number 1 berth by 0500 on Sunday 7 May 2000.

1.6.5 The master was engaged with port and company officials after arrival, and on his own paperwork during the morning. In the afternoon he slept for about one hour. He was on the bridge when the *Caribic* was moved from number 1 berth to number 2 berth and was then involved with paperwork and port officials, readying for departure.

1.6.6 The pilot had been rostered on duty for the day before the grounding and had finished his duties by 1800. He completed 2 other pilotage movements during Sunday 7 May working from 0730 to 1030 and 1330 to 1600. He had then reported for duty at 1930 ready for the departure of the *Caribic*.

1.7 Legislation

1.7.1 The International Convention on Standards of Training, Certification and Watchkeeping 1978 (STCW 1978) Chapter II, Master – Deck Department, Regulation II/I states:

> 4. Watch Arrangements
>
> (a) The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions and shall take into account the need for maintaining a proper lookout.
>
> (b) When deciding the composition of the watch on the bridge which may include appropriate deck ratings, the following factors, inter alia, shall be taken into account:
>
> (i) at no time shall the bridge be left unmanned
>
> (ii) weather conditions, visibility and whether there is daylight or darkness
>
> (iii) proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties
>
> (iv) use and operational condition of the navigational aids such as radar or electronic positioning devices and any other equipment affecting the safe navigation of the ship
>
> (v) whether the ship is fitted with automatic steering
>
> (vi) any unusual demands on the navigational watch that may arise as special operational circumstances
>
> 10. Navigation with a pilot on board [not amended in STCW 1995]
>
> Despite the duties and obligations of a pilot, his presence on board does not relieve the master or Officer in Charge of the watch from their duties and obligations for the safety of the ship. The Master and the Pilot shall exchange information regarding the navigational procedures, local conditions and the ship's characteristics. The Master and the Officer of the watch shall co-operate closely with the Pilot and maintain an accurate check of the ship's position and movement.

1.7.2 The 1995 amendments to STCW contained in Chapter VIII, Watchkeeping were as follows:

> 16. In determining the composition of a safe navigational watch is adequate to ensure that the proper lookout can continuously be maintained, the Master shall take into account all the relevant factors, including those described in this section of the Code, as well as the following factors:
>
> 1. visibility, state of weather and sea;
>
> 2. traffic density, and the other activities occurring in the area in which the vessel is navigating;
>
> 3. the attention necessary when navigating in or near traffic separation schemes or other routing measures;

4. the additional workload caused by the nature of the ship's functions, immediate operating requirements and anticipated manoeuvres;

5. the fitness for duty of any crew members on call who are assigned as members of the watch;

6. knowledge of and confidence in the professional competence of the ship's officers and crew;

7. the experience of each officer with the ship's equipment, procedures and manoeuvring capability;

8. activities taking place on board the ship at any particular time, including radio communications activities, and the availability of assistance to be summoned to the bridge when necessary.

1.7.3 The International Convention for the Safety of Life at Sea (SOLAS) 1974 and its protocol of 1978 uses the International Maritime Organisation Resolution A.481 (XII) for the principles of safe manning in Chapter V Regulation 13, Annex 2:

2. Principle:

The capability to maintain a safe navigational watch in accordance with Regulation II/I of the 1978 STCW Convention and also to maintain general surveillance of the ship.

2.1 In addition to the navigational and collision avoidance duties, the officer in charge of a navigational watch who is in effective control of the ship should exercise general surveillance over the ship and should take all possible precautions to avoid pollution of the marine environment. This surveillance will include, for example, investigation of evidence of fire and unusual noises, security of cargo, general safety of crew members when working in exposed locations, the general watertight integrity of the ship and action in the event of man overboard.

2.2 The bridge watch should consist of at least one officer to take charge of a navigational watch and at least one qualified or experienced seaman provided that:

1. the watch complies with the requirements of Regulation II/I of the 1978 STCW Convention, in particular paragraphs 4 & 9;

2. when an automatic pilot is used, the helmsman may be released for other duties subject to the provisions of Regulation 19, chapter V of the 1974 SOLAS Convention;

3. except in ships of limited size the provision of qualified deck officers should be such that it is not necessary for the Master to keep regular watches;

4. except in ships of limited size a three watch system should be used.

2.3 Where the bridge watch consists of one officer and one seaman, there should be the capability to provide further assistance at any time if the officer of the watch requires additional help. Such assistance should be readily available and fit for duty.

1.7.4 Paragraph 9 of Regulation II/I was amended in STCW 1995 under Section A,VIII/2 part 3 – 1:

> 14 The lookout must be able to give full attention to the keeping of a proper lookout and no other duties shall be undertaken or assigned which could interfere with the task.
>
> 15 The duties of the lookout and helmsperson are separate and the helmsperson shall not be considered to be the lookout while steering, except in small ships where an unobstructed all round view is provided at the steering position and there is no impairment of night vision or other impediments to the keeping of a proper lookout. The officer of the watch may be the sole lookout in daylight provided that on each occasion:
>
> 1. the situation has been carefully assessed and it has been established without doubt that it is safe to do so
>
> 2. full account has to be taken of all relevant factors, including but not limited to:
>
> - state of the weather
> - visibility
> - traffic density
> - proximity of dangers to navigation and
> - the attention necessary when navigating in or near traffic separation schemes
>
> 3. assistance is immediately available to be summoned to the bridge when any change in the situation so requires.

2. Analysis

2.1 The arranged departure for the *Caribic* fell at the time of full flood tide and there was a north-westerly wind of 20 to 25 knots with passing showers. There were no restrictions under port policy for a vessel such as the *Caribic* that would stop its departure. The visibility was reduced by the showers but not so much to obscure the navigational aids. The decision by the pilot and the master to continue with the departure appeared reasonable.

2.2 The master and pilot exchange of information before departure was made without any communication problem. The erratic operation of the rudder indicator and the unserviceable starboard gyro compass repeater were not listed as defects on the pilot information card. The recollections of the master and pilot differ as to whether or not the master told the pilot about the rudder indicator and the vessel's slow initial reaction to applied rudder.

2.3 The principles of STCW and SOLAS applied equally to navigation with a pilot on board as to watchkeeping at sea. The presence of a pilot did not relieve the master or the officer of the watch of their duties and obligations for the safety of the vessel.

2.4 The departure from Tauranga of the *Caribic* was conducted at night in poor weather and reduced visibility. The composition of the watch on the bridge was not appropriate in that the master should have had at least a separate helmsman, allowing him to work closely with the pilot and to act as lookout monitoring the passage of the vessel while in close proximity to navigational hazards.

2.5 The master chose to operate the bridge by himself, utilising his deck officers and crew at forward and aft mooring stations. He was therefore committed to steering, operating the engines and bow thruster, issuing instructions to forward and aft, monitoring the passage visually and by radar, and maintaining internal telephone communication.

2.6 The *Caribic* was certificated to operate a single watchkeeper bridge. The intent of such certification was that one watchkeeper could safely operate and monitor the progress of the vessel while at sea, when that person was able to move around the bridge between the equipment while the vessel was steered by autopilot.

2.7 In a manoeuvring situation with the vessel being steered by hand, the master, acting as a single operator, was committed to the steering position and although the other controls were within reach he had limited time and ability to adequately monitor the actions of the pilot and the progress of the vessel as well.

2.8 Moving a vessel away from a berth is normally achieved from the wing of the bridge so that the pilot, usually with the master, can monitor the movement of the vessel in relation to the berth. In order to achieve this, another crew member has to be present to steer and operate the controls under instruction.

2.9 For departure from Tauranga the deck officers and crew were all employed forward and aft. The chief officer, bosun and AB were at forward stations to let go the lines and then stand by for the passage out of port. The second officer and deck cadet were at aft stations for letting go the lines, making fast and letting go the tug, and then rigging the pilot ladder.

2.10 The workload for the 2 men aft was greater than that for the 3 men forward. If the master considered that 2 men could adequately and safely carry out the required tasks at the aft station, it would have been reasonable to consider the same to be true for the forward station. One of the forward crew could then have been released to assist the master on the bridge, freeing him to properly monitor the passage of the vessel and work with the pilot.

2.11 A worldwide trend for reduced crewing levels has been apparent for several years and pilots have come to accept that the numbers of crew at forward and aft stations are limited, and that the time taken for mooring and letting go has increased accordingly.

2.12 Having chosen to operate the bridge by himself, it would have been prudent for the master to have arranged someone to come to the bridge and take over the steering immediately after the lines had been let go.

2.13 With the master captive at the steering position, the command of the vessel essentially transferred to the pilot, and the master deprived himself of the ability to fully monitor the movement of his vessel visually or with the aid of the navigational chart. The situation did not allow the principles of BRM and teamwork to function well.

2.14 When asked their opinions about manoeuvring a vessel the size of the *Caribic* with the master alone on the bridge and captive to the helm, both the pilot and the manager of marine services said it was not a common occurrence but they expressed no particular concern.

2.15 With the tendency for decreasing crew sizes, the expressed lack of concern, and only one of the current pilots having undergone BRM training, there may be a need for the port company to embrace the concept of BRM and incorporate it in its policy and procedures, encouraging its pilots to require adequate bridge resources when conducting acts of pilotage.

2.16 Correspondingly the operator of the *Caribic* may need to consider the concept of BRM when crewing its vessels and the master when distributing resources during critical operations.

2.17 When the *Caribic* was moved bodily off the berth the pilot turned it into Cutter Channel using the bow thruster while the tug held the stern in position. He also put the engine ahead and the helm hard to port. The vessel reacted as the pilot expected, which indicated that the rudder was capable of moving to port at that time.

2.18 When the vessel was established on the leads and the tug let go, the pilot ordered the master to steer a course towards the leads. To maintain that course it can be reasonably assumed that the master would have had to apply both port and starboard helm. Neither the master nor the pilot expressed any concern that the vessel was unable to maintain its course, again indicating that rudder movement was available to both sides at that time.

2.19 The pilot commenced the starboard turn into number 2 Reach when the *Caribic* was abeam number 1 beacon. At that time the wind was from about right ahead at 20 to 25 knots and the tide running against the vessel at about 3.5 knots. The turn was initiated with 10 degrees of starboard helm.

2.20 Once the turn was initiated, the *Caribic* probably tended to the starboard side of the channel because of the combined effect of leeway from the north-westerly wind and set from the flood tide. Under the prevailing conditions it would have been prudent to have initiated the turn later.

2.21 The second officer had arrived on the bridge as the *Caribic* began its turn to starboard. His reporting to the master that the starboard pilot ladder was rigged and ready would have been a distraction at what was a critical time.

2.22 The recollections of the master and pilot differ with regard to the helm orders and the reaction of the rudder and its indicator over the period from when they realised that the rate of turn was too high at number 4 buoy, to the grounding. However, the *Caribic* had been making about 7 knots in the Cutter Channel and the distance from number 4 buoy to the grounding was only about 230 m. Assuming that the speed remained at about 7 knots, the whole event would have been over in about 65 seconds.

2.23 The initial helm order at number 4 buoy was amidships and the master and pilot agreed that at some point the rudder indicator did show amidships. To arrest the turn the pilot then ordered 10 degrees of port helm but recalled that the rudder indicator went to starboard. With the master's concern over the rapidly deteriorating situation and being distracted by the arrival of the second officer, the possibility that he inadvertently briefly put the tiller the wrong way could not be ruled out. The tiller with which the master was steering was small and close to the edge of the console. The master had served twice previously on the vessel and was accustomed to its operation. Nevertheless, it was possible to inadvertently knock the tiller and even a small movement would cause the rudder to move.

2.24 There is another possible explanation for the pilot seeing the rudder indicator to starboard. The master recalled that he followed the pilot's helm instructions of amidships, 10 degrees to port, 20 degrees to port and hard to port. He also stated that the rudder indicator followed the helm, albeit erratically. The pilot would have also been concerned with the deteriorating situation. It is possible that his recollection of the indicator being over to starboard was after the master had put the helm amidships and to port but, due to its erratic behaviour, the indicator had not caught up with the movement of the rudder.

2.25 As the *Caribic* continued the turn to starboard, the wind would have come broad on the port bow, making a turn back into the wind more difficult. The accommodation block was aft but was not high enough to produce windage to significantly assist turning the vessel head to port up into wind.

2.26 The flood tide would also have begun to bear on the port side of the vessel, increasing the amount of set towards the starboard side of the channel.

2.27 The master applied full port thrust on the bow thruster, but at 7 knots it was unlikely to have had any marked effect.

2.28 The master increased the propeller pitch to increase the thrust on the rudder and turned on the second steering gear. These actions were taken after the Tanea number 2 buoy was on the port side of the vessel and would be unlikely to have had any significant effect in avoiding the grounding.

2.29 While the vessel was still aground, the rudder indicator was seen to be showing hard to port with the steering gear turned off. This would indicate that the rudder had been at hard to port at the time the steering gear was turned off shortly after the grounding.

2.30 During the return to the berth while moving back into Cutter Channel from the vicinity of Banks buoy, another order for port helm was given. The recollections of those on the bridge differ on whether the rudder indicator responded or not, but the vessel did turn to port as required. Because there was a tug made fast and the vessel was in the tidal flow it was not clear whether or not the rudder had turned to port.

2.31 A subsequent order for starboard helm was given and again there was initially no reaction from the rudder indicator but the vessel turned as if the helm had been applied. The indicator subsequently did move to properly reflect the position of the rudder.

2.32 When manoeuvring any vessel the amount of rudder required to initiate and maintain a required turn has to be estimated, particularly by an attending pilot who does not know the vessel well. Once initiated, the rate of turn is monitored and may have to be corrected by increasing or decreasing the amount of rudder applied.

2.33 To make the starboard turn in the channel, the pilot applied 10 degrees of rudder at number 1 beacon. This helm order was sufficient to initiate the turn but by the time the *Caribic* reached number 4 buoy, the rate of turn had become excessive. He and the master detected the excessive rate of turn and attempted to correct it by first taking off the starboard rudder and then applying increasing amounts of port rudder.

2.34 Based on the tests conducted after the grounding, and the evidence that the rudder was capable of moving to port both before and after the grounding, it is probable that the rudder was moving to port as requested by the pilot. However, the pilot was not aware of the tendency of the vessel to initially react slowly to applied rudder. With the vessel already swinging to starboard at an excessive rate and moving further out of the channel, the 65 seconds before the grounding was not sufficient for the vessel to regain the channel using the corrective helm as applied in small increments; rather, an immediate helm order for hard to port may have corrected the turn. Had the pilot been better informed of the vessel's manoeuvring characteristics, he may have chosen the latter option first.

2.35 Any confusion over what helm orders were given and what were complied with appeared to have arisen due to the erratic movement of the rudder indicator. The poor performance of the rudder indicator clouded the issue of what was done to recover a lost situation, rather than having caused it.

2.36 After the *Caribic* grounded, the master's actions in reducing the propeller pitch to zero and turning off the steering gears were appropriate.

2.37 The master and pilot both informed appropriate parties of the grounding and it was prudent of the pilot to seek the assistance of the manager of marine services and both harbour tugs.

2.38 The plan to refloat the vessel was agreed and made in timely fashion to make use of all available resources and to take advantage of the high water.

2.39 The refloating operation was carried out in an effective and efficient manner and the vessel was manoeuvred in such a manner that the possibility of a second grounding by Banks buoy was avoided.

3. Findings

3.1 The *Caribic* was operated under a safety management system and its statutory and trading certificates were valid at the time of the grounding.

3.2 The *Caribic* was crewed above the level stipulated in its Safe Manning Document with the addition of one engineer and a cook. The crew held qualifications appropriate to their positions.

3.3 In view of the work histories of the master and pilot, fatigue was not considered to have contributed to the grounding.

3.4 In contravention of the intent and provisions of STCW and SOLAS, the master operated the bridge by himself and in doing so deprived himself of the ability to properly monitor the actions of the pilot and the movement of his vessel.

3.5 The resources available on the bridge of the *Caribic* at the time of the accident did not allow the principles of good BRM to function properly.

3.6 There was sufficient crew on board the *Caribic* for the master to have formed a 2-person bridge team thus allowing him to work more closely with the pilot.

3.7 The *Caribic* had a known tendency to initially react slowly to applied rudder before establishing a fast rate of turn. That tendency was not noted on the pilot information card nor was it adequately conveyed to the pilot.

3.8 By the time the master and pilot detected the excessive rate of turn, the *Caribic* had turned through the wind and flood tide and was heading out of the channel.

3.9 The turn had been initiated by the application of 10 degrees of starboard rudder and became greater than the pilot had estimated. He took corrective action, but the application of counter helm in small increments, given the slow initial reaction time of the vessel, was not sufficient to avoid the grounding.

3.10 Pre-departure tests of the steering gear and the reaction of the vessel to applied helm in the initial stages of the departure indicated that the steering gear was operating correctly at that time.

3.11 Tests carried out after the accident revealed that the steering gear was mechanically sound and operating correctly except that the bridge rudder indicator was erratic and indicating angles greater than actual rudder angles when hard over.

3.12 The rudder indicator fault was known to the crew and should have been rectified so that the instrument reflected the movement of the rudder accurately. While the fault existed, it should have been recorded on the pilot information card.

3.13 The erratic movement of the rudder indicator created confusion for the pilot, and that confusion contributed to the grounding.

3.14 The slow reaction of the *Caribic* to counter rudder once swinging to starboard, together with the faulty movement of the rudder indicator led the pilot to believe that the steering gear was not moving the rudder to port. The possibility of an intermittent malfunction of the steering gear that was not evident in subsequent testing could not be discounted.

4. Safety Actions

4.1 The rudder indicator was repaired so that it faithfully reflected the actual movement of the rudder. This was carried out before Lloyds allowed the vessel to depart Tauranga.

4.2 In recognition of the initial slow response to the rudder and the need for pilots to be aware of it, the operator made the following notation on the pilot information card for the *Caribic*:

> It is to be considered that in a condition nearing maximum draught, the vessel has a tendency to respond somewhat slower to her rudder than other reefer vessels of the same size.

5. Safety Recommendations

5.1 On 20 November 2000 it was recommended to the technical director of Seatrade Groningen B.V. that he:

5.1.1 Incorporate in the company safety management system, instructions to masters requiring them to operate the bridge with at least one other crew member during manoeuvring situations. (101/00)

5.1.2 Ensure that crewing levels on the company vessels are sufficient to allow the master to operate the bridge with at least one other crew member during manoeuvring situations and have enough crew to safely conduct mooring and unmooring operations. (102/00)

5.1.3 Ensure that masters and senior officers receive bridge resource management training and adopt the principles as part of company operational policy and procedure. (103/00)

5.2 On 1 December 2000 the technical director of Seatrade Groningen B.V. replied:

5.2.1 Seatrade Groningen B.V. will take or has taken the following steps to avoid same in the future.

-Instructions will be added to the existing procedure SAF.PR.02 “Voyage Planning Sailing & Arrival” indication that key positions on the bridge must be covered adequately.

-All our vessels have a Safe Manning Document. Furthermore “Seatrade” has their own safety manning standard which is exceeding the “Safe Manning Document”. In this respect we can guarantee that we have enough crew on board to safely conduct mooring and unmooring operations.

-A number of Masters have received the Bridge Resource Management Training in the meantime. This program will be completed in due course. However we will undertake a maximum effort that the Master of the M.V. Caribic will follow the relevant training upon the next convenient opportunity.

5.3 On 20 November 2000 it was recommended to the chief executive of Port of Tauranga Limited that he:

5.3.1 Ensure that all company pilots attend a bridge resource management course and adopt the principles as part of company operational policy and procedure. (104/00)

5.4 On 8 December 2000 the chief executive of Port Tauranga Limited replied:

5.4.1 As yet I have not seen the final report so without that document it is difficult for me to ascertain what relevance, if any, your final safety recommendation has. It is still our view, based on the preliminary report, that the safety recommendation has no relevance at all to the incident. No amount of bridge resource management instruction to our staff would have made any difference with respect to the *Caribic* grounding.

We have been in discussion with MSA for some time over the issue of bridge resource management courses and have expressed to them our reluctance to send our staff (at considerable cost) to what was then the only course available, being provided in Australia. We have also been in discussion with the Auckland Nautical School as to whether they could provide a less expensive alternative to the current monopoly provider and they have assured us that they intend to start a course in the year 2001. If that is the case we will consider sending our staff on such a course. I am unable to tell you when we will have finished implementing this recommendation because as yet we have not had confirmation of course dates in Auckland.

5.5 On 22 November 2000 it was recommended to all Regional Council chief executives and harbourmasters that they:

5.5.1 Introduce the following directions into the harbour bylaws covering their ports, to emphasise the intent and principles of STCW and SOLAS:

- all vessels, whether under pilotage or pilot exempt, shall have an agreed passage plan for transits within harbour limits
- the number of crew members on the bridge shall be sufficient to safely carry out the agreed passage plan
- in determining the composition of the bridge team, due regard shall be taken of the need to steer, operate manoeuvring machinery, monitor the progress of the vessel visually, use all available aids to navigation and refer to an appropriate navigational chart.

Council	**Ports**	**Recommendation number**
Northland Regional Council	Whangarei and Bay of Islands	109/00
Auckland Regional Council	Auckland	110/00
Environment Bay of Plenty	Tauranga	111/00
Hawke's Bay Regional Council	Napier	112/00
Wellington Regional Council	Wellington	113/00
Marlborough District Council	Picton	114/00
Environment Canterbury	Lyttelton and Timaru	115/00
Otago Regional Council	Port Chalmers and Dunedin	116/00
Environment Southland	Bluff	117/00
West Coast Regional Council	Greymouth	118/00
Nelson City Council	Nelson	119/00
Taranaki Regional Council	New Plymouth	120/00
Wanganui District Council	Wanganui	121/00
Buller Port Services Limited	Westport	122/00
Gisborne District Council	Gisborne	123/00

5.6 On 27 November 2000 the Northland Regional Council replied, in part:

5.6.1 The Northland Regional Council is currently in the process of reviewing its harbour bylaws and your recommendations will be included as part of the review.

5.7 On 27 November 2000 the Auckland Regional Council replied:

5.7.1 Enclosed is a copy of our proposed Maritime Bylaws, due for implementation on 1 January 2001. Clause 3.12 mirrors your recommendations.

3.12

(i) The master or person in charge of any vessel, including a sailing vessel, shall, when that vessel is within Auckland's Pilotage Districts, keep the vessel out of the way of any vessel of U.M.S. gross 500 or upwards, such distance of clearance to be a minimum of 50 metres.

(ii) All vessels of UMS gross 500 tonnes or upwards, whether under pilotage or pilotage exempt, shall have an agreed passage plan for transits within pilotage limits.

(iii) The number of crew members on the bridge shall be sufficient to safely carry out the agreed passage plan.

(iv) In determining the composition of the bridge team, due regard shall be taken of the need to steer, operate manoeuvring machinery, monitor the progress of the vessel visually, use all available aids to navigation and refer to an appropriate navigation chart.

5.8 On 1 December 2000 the Environment Bay of Plenty replied:

5.8.1 The harbour bylaws are presently being reviewed, whilst under the legislation we cannot make new pilotage bylaws, our existing bylaws will be amended as far as possible to incorporate the following:

- All vessels, whether under pilotage or pilot exempt, shall have an agreed passage plan for transit within pilotage limits.
- The number of crewmembers on the bridge shall be sufficient to safely carry out the agreed passage plan.
- In determining the composition of the bridge team, due regard shall be taken in the operation of all controls, monitor the progress of the vessel visually, use all available aids to navigation and ensure that the appropriate navigational charts are available and up to date.

This would ensure that the principals of STCW and SOLAS are adhered to.

5.9 On 1 December 2000 the Hawke's Bay Regional Council replied, in part:

5.9.1 This Council is intending to undertake a major review of its bylaws in this financial year.

As part of that review, Council will consider the inclusion of the Safety Recommendation 112/00 in its bylaws.

5.10 On 28 November 2000 the Wellington Regional Council replied:

5.10.1 Your [recommendation] will be put before the Wellington Regional Council when it meets to consider confirming the Bylaws on 7 December. I will write to inform you of the Council's decision.

5.11 On 4 December 2000 the Marlborough District Council replied, in part:

5.11.1 Marlborough District Council is currently in the process of reviewing the existing harbour bylaws and the formulation of new harbour bylaws pursuant to the Local Government Act 1974.

In order that the Commission may have some indication of the wording of the bylaws envisaged a copy of the relevant text is included below. It must be stressed that the text may still change following perusal by Council's legal advisors and/or subsequent submissions.

1. The master of every ship which is not a pleasure craft shall, when navigating within harbour limits ensure that:

(i) automatic steering 'pilot' devices, if fitted, are not to be used, unless a helmsman is standing by in the immediate vicinity of the helm or wheel. Otherwise, vessels are to be in hand-steering mode.

(ii) the main engines are to be immediately available for reducing speed, stopping or going astern at all times without delay

(iii) anchors are immediately available for use in an emergency and capable of being used without power

2. While navigating within harbour limits, the master of every ship shall ensure that all aids to navigation, including but not limited to radar and depth recording devices, if fitted are to be in continuous operation and fully utilised.

3. The master of every ship which is not a pleasure craft whether under pilotage or pilotage exempt shall have an agreed passage plan for transits within harbour limits.

4. The master of every ship which is not a pleasure craft, while navigating within harbour limits of the region, shall ensure that sufficient trained personnel are tasked with monitoring the ship's progress and implementation of the agreed on passage plan.

5. When navigating within any part of the region's harbours, all ships of 6 metres in length and above shall carry and consult a current copy of the appropriate nautical charts (or approved electronic equivalent).

5.12 On 5 December 2000 Environment Canterbury replied, in part:

5.12.1 Environment Canterbury needs to carry out further work before deciding to implement the safety recommendation 115/00.

This further work involves:

(a) discussions with our port harbour masters about current practices at the ports of Timaru and Lyttelton;

(b) discussions with Maritime Safety Authority about their intentions with respect to Maritime Rules covering the same requirements and the extent to which Maritime Rules can do the job;

(c) investigations into the adequacy of existing Bylaw provisions and the extent to which the relevant parts of the existing Bylaws under the Harbours Act 1950 will be carried forward under the Local Government Act 1974

(d) investigations as to whether it is possible to draft appropriate legally enforceable bylaws to cover the proposed directions.

In any case it is not legally possible to agree to the proposed Bylaw changes at this stage without going through the procedures laid down in the Harbours Act.

5.13 On 5 December 2000 the Otago Regional Council replied, in part:

5.13.1 Your recommendation is to introduce new by-laws into the existing harbour by-laws covering the port of Otago. You have identified three suggestions for change to the by-laws. Each of these three suggestions relates to maters that appear to be the domain of the Maritime Safety Authority concerning vessel crewing and seamanship training, not harbour management (pilotage and harbourmastering) per se.

There is a lengthy procedure to be undertaken in order to change or establish new harbour by-laws. Any decision to alter by-laws is firstly a matter for Council consideration and then a full public procedure. Your recommendations arrived too late to be placed on the agenda of our last Committee meetings for 2000. They will be placed before Committee next year. I will advise you in due course of the Council's decision on your recommendation 116/00.

5.14 On 30 November 2000 Environment Southland replied:

5.14.1 Environment Southland is required to review its bylaws by 2003. It is proposed to consider the inclusion of your recommended bylaw and the extent to which it should apply during that process.

As this stage, I see no particular impediment to adopting the recommended bylaw for the harbours of this region that are used by large vessels.

5.15 On 6 December 2000 the Nelson City Council replied:

5.15.1 Nelson City Council's harbour bylaws are currently under review, and are scheduled for completion about September 2001.

Council views the safety recommendation very seriously, and will write to all current pilots and current holders of pilotage exemptions working in Port Nelson enclosing a copy of the Commission's final recommendation.

Further the Council will bring the recommendation to the attention of all future candidates for both pilot licences and pilot exemption certificates.

We strongly believe that this form of communication will be far more effective that the making of a harbour bylaw.

5.16 On 4 December 2000 the Wanganui District Council replied, in part:

5.16.1 I will bring this information to the next Harbour Committee Meeting held by the District Council next year. This is likely to be in February or March. In the interim I will arrange for our Officer responsible for by-law changes to draft up some appropriate wording based around [your recommendation 121/00].

5.17 On 22 November 2000 Buller Port Services Limited replied:

5.17.1 The safety recommendation has been written into the Wesport Harbour bylaws and this legal process will be completed no later than 1 June 2001, but the recommendation has been practiced since 18 October 2000.

5.18 On 3 December 2000 the Gisborne District Council replied, in part:

5.18.1 After some consideration I do not believe that the recommendations should be included in harbour bylaws for the following reasons.

a. International shipping cannot be expected to be familiar with the bylaws of every port their ships visit, nor will the Masters of the vessels necessarily understand what is contained in these bylaws . . .

b. There is no way of policing the implementation of such regulations unless by an enquiry conducted by the Maritime safety Authority after an accident.

c. While I agree with general principle of the proposals it is my opinion that the matter should be dealt with at Government level through the International Maritime Organisation by international regulation.

d. It is not yet compulsory for pilots to take Bridge Resource Management courses . . .

Approved for publication 22 November 2000

Hon. W P Jeffries
Chief Commissioner