



Accident Report

Santa Regina

Navigational Error South of
Pencarrow Head, Wellington on
14 April 2005

Class B



REPORT NO.: 05 3730
SANTA REGINA – NAVIGATIONAL ERROR

On 14 April 2004, whilst approaching the entrance to Wellington Harbour, the Officer of the Watch (OOV) on *Santa Regina* became distracted from his duties and failed to alter course onto the leads. After a short period, he noticed his mistake and altered course to bring the vessel back onto the leading marks by the time *Santa Regina* was abeam of Pencarrow Head.



Santa Regina



Details of Vessel, Owner, Management & Crew:

Name of Vessel:	<i>Santa Regina</i>
Vessel Type:	SOLAS Passenger Vessel
Port of Registry:	Wellington
Flag:	New Zealand
IMO No.:	8314562
Built:	1985
Construction Material:	Steel
Length Overall (m):	133
Maximum Breadth (m):	22.52
Gross Tonnage:	14 588
Net Tonnage:	4 376
Propulsion:	2 x Pielstick PC 2.6 (9 cylinder) diesel engines
Accident Investigator:	Andrew Hayton



- **Owner Details**

Strait Holdings Ltd

- **Operator**

Strait Shipping Ltd

- **Crew Details**

Second Officer, aged 40, holds a 2nd Mates Certificate of Competency issued in 1997. He also holds a New Zealand Certificate of Recognition issued in 2002. He has worked for Strait Shipping for over two years. He has not attended a Bridge Resource Management course.

NARRATIVE

On Thursday 14 April 2005, at approximately 1000 hours New Zealand Standard Time (NZST), the 2nd Officer relieved the 3rd Officer to take the con of **Santa Regina**. The Mate/Master also commenced his duty period at the same time, and was working in the computer room abaft the wheelhouse. The Cadet was in and out of the bridge cleaning the magnetic compass and periscope and changing the compasses' light bulb. The vessel was being steered by autopilot on a heading of 083°(T) and had a speed over the ground of 15.8 knots. The vessel had approximately seven miles to run before the entrance leads waypoint.

At approximately 1025 hours, the 2nd Officer called the Engine Control Room to advise them that they would be abeam of Barretts Reef Buoy in 10 minutes time. He then doubled up the steering motors and made the standard arrival call to Beacon Hill Radio via Very High Frequency (VHF) radio. At this juncture, the vessel had approximately 1.4 miles to run to the next wheel over position.

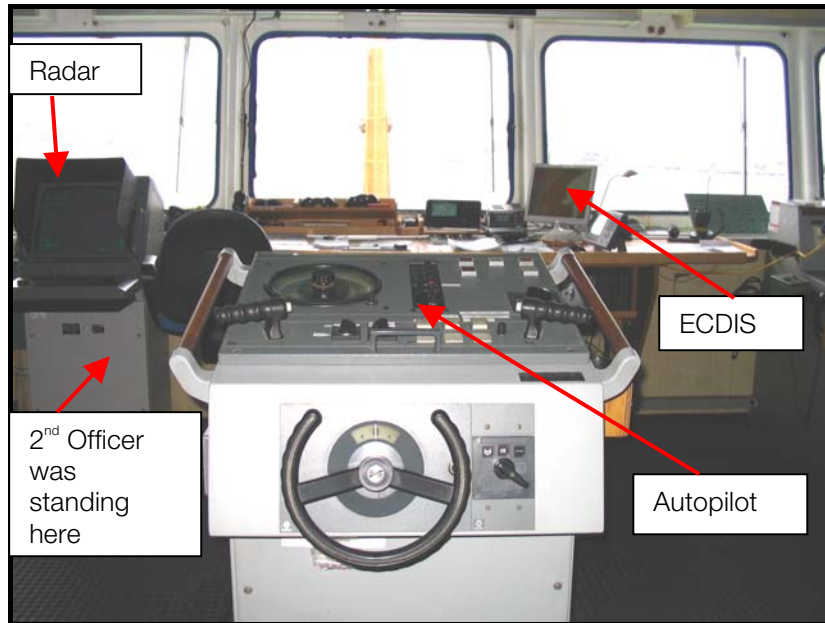
At approximately 1030 hours, the Cadet and the 2nd Officer became engaged in a conversation regarding the magnetic compass. They were standing at the front of the wheelhouse. The 2nd Officer was standing immediately to port of the steering consol and looking forward. From where the 2nd Officer was standing, it was possible for him to see both the Electronic Chart Display & Information System (ECDIS) and radar. This conversation distracted the 2nd Officer and caused him to forget to alter course at the charted position in order to bring the vessel round onto a heading of 016°(T) and thus onto the approach leads into Wellington Harbour.

At approximately 1032 hours, whilst still talking to the Cadet, the 2nd Officer had an intuitive feeling that something was wrong. Upon looking at the ECDIS, which was approximately two metres away from where he was standing, and observing the vessels position in relation to the charted track lines, he knew at once that he had overshot the waypoint.

The 2nd Officer quickly went to the autopilot and dialled in a new heading of 000°(T). No reduction in speed was made. The vessel then commenced a turn to port. The rate of turn would have been approximately 40° per minute. Shortly after the commencement of the turn, he again adjusted the autopilot heading to 340°(T), intending to bring the vessel back onto the leading marks when the vessel was abeam of Pencarrow Head. He set range rings on the radar at 1.5 cables to monitor the vessel's distance off the coast.

At approximately 1036 hours, just prior to **Santa Regina** regaining the leads abeam of Pencarrow Head, the Mate/Master and Master both arrived in the wheelhouse. The Mate/Master took the con from the 2nd Officer when the vessel was abeam of Barretts Reef Buoy and safely brought the vessel to its berth in Wellington.





Photograph 1
View of wheelhouse from centreline looking forward

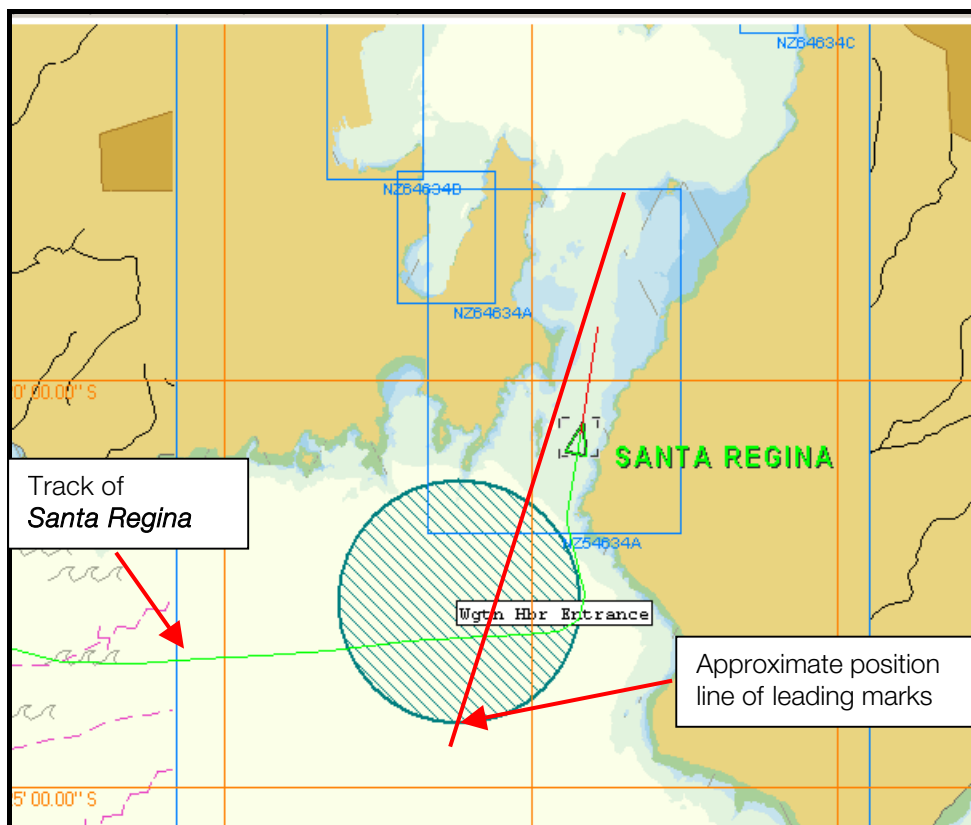


Diagram 1
Chartlet obtained from Maritime Operations Centre (MOC), showing AIS (Automatic Identification System) track of *Santa Regina*



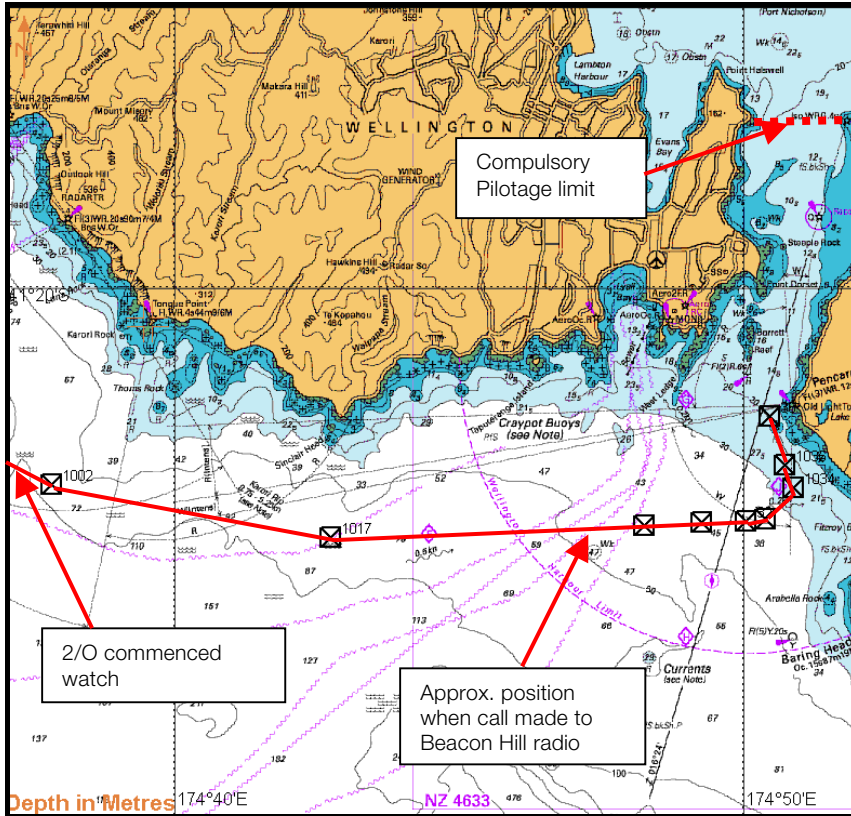


Diagram 2
Extract of Chart NZ4633

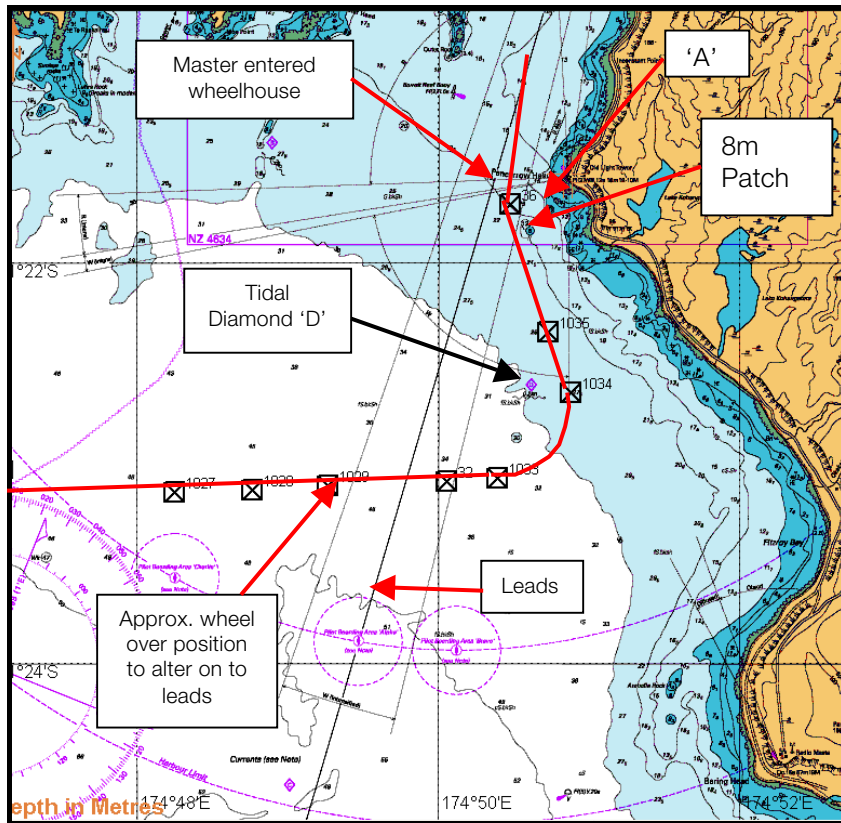


Diagram 3
Extract of Chart NZ4633

FINDINGS

High water at Wellington on 14 April 2004 was at 0923 hours NZST. The height of tide at the time of the incident was approximately 1.5 metres above chart datum. At the time of this incident, the tidal stream at tidal diamond 'D', situated to the south of Pencarrow Head, would have been approximately 320°(T) at 0.5 knots (See Figure 3).

The vessel was being steered by autopilot throughout the incident with a rudder limit setting of 10°. The rudder limit was normally set to 10°. The 2nd Officer could have adjusted this rudder limit quickly by turning a knob on the steering consol had he thought it necessary. The 2nd Officer did not adjust the limit, as he was satisfied that the vessel was turning as he expected and that it was sufficient to enable the vessel to return to her planned track safely.

Fatigue was not a contributing factor in this incident. The 2nd Officer was 15 days into his roster. The night prior to the incident, he had had approximately six and a half hours sleep. The 2nd Officer stated that he was not fatigued.

The actual weather conditions on the date of the incident were good visibility and light winds, with calm seas and no swell.

There were no other vessels in the vicinity.

The radars were in true motion mode with offset centres. One radar was on the six mile range and the other was on the 3 mile range before being set on the 1.5 mile range. Range rings were set at 0.15 mile radius on the lower range.

The 2nd Officer was plotting the vessel's position on a paper chart. Since commencing his watch at 1000 hours, he had logged two positions in the log book. The last position that he logged prior to missing the waypoint was at 1017 hours, when he obtained a position with Sinclair Head bearing 005°(T) x 1.6'. At this position he logged an alteration of course to 087°(T). He was monitoring the vessel's position on the ECDIS and obtaining positions for the logbook by taking ranges and bearings off the radar.

The echo sounder was switched off and was not used during this incident. Although it was company policy to use all available navigational aids, the 2nd Officer had never seen the echo sounder used onboard the vessel.

No waypoint approach alarms were programmed into the available electronic navigational aids.

The vessel's maximum draft at the time of the incident was 6.02 metres. At approximately 1036 hours, the vessel came within 50 metres of passing over a rock with a charted depth of 8 metres. With 1.5 metres height of tide, the depth of water over the rock at the time of the incident would have been 9.5 metres giving a maximum clearance of 3.5 metres.

The bridge team onboard **Santa Regina**, when in pilotage waters, comprises either the Master and 3rd Officer or the Mate/Master and 2nd Officer, depending on which shift is on duty. When in the open waters of Cook Strait, in good weather conditions, the bridge manning is usually reduced to just one Officer. Ratings are only used as a lookout on the bridge in poor weather conditions and do not routinely form part of the bridge team. At the time of the incident, this was company policy.

If the 2nd Officer had not altered course when he did, and had the vessel maintained its heading, it would have run aground in a further 1.6 miles, which at a speed of 16 knots over the ground would have taken approximately six minutes.

At the completion of its turn to port, the vessel was approximately 6.5 cables to starboard of the leads and just over half a mile off the coast.



The closest that ***Santa Regina*** got to shallow water was when the vessel had shallow water and rocks approximately 1.8 cables or about 330 metres on its starboard side when in a position to the South West of Pencarrow Head. (See *Diagram 3 - Position 'A' of chartlet*)

The 2nd Officer insisted that the vessel was not put into danger at any time during this incident.

The Mate/Master normally arrived in the wheelhouse several minutes prior to the vessel arriving at the leading marks alteration in the vicinity of the pilotage district limit.

The Compulsory Pilotage area for Wellington is in all that part of the harbour northward of a line running from Point Gordon through the rear lead to the eastern shore.

In order for an incident to take place, there must be a number of factors present namely, an organisational or environmental factor, otherwise known as a latent failure and an unsafe act, otherwise known as an active failure.

In this incident, there was an active failure caused by a slip or unintentional act on the part of the 2nd Officer, in that he suffered an attention and situational awareness failure at a crucial stage of the vessel's navigation. There were latent failures of lack of supervision and procedures due to the fact that the Mate/Master was not present in the wheelhouse, and no lookout was present.

It is probable that the 2nd Officer had become 'routinised' on his regular voyage between Wellington and Picton. The danger here is that if somebody is so experienced at a particular voyage, they no longer think, therefore the likelihood of them making a mistake, or unintentional act, greatly increases.

If somebody is good at carrying out a job that is characterised by routinely managing a certain inherent level of risk, such as operating a ferry, over time they tend to forget or get used to these dangers. This is a process known as 'normalisation'- the process of forgetting to be afraid. In this incident, the 2nd Officer was so experienced at managing the dangers of port arrival that he had simply forgotten how dangerous this was. The level of risk was quite 'normal' for him. His mind was no longer clearly focused on the job at hand.



CONCLUSIONS

The 2nd Officer became distracted and forgot to alter course onto the leading marks. Because he was the only person on watch in the wheelhouse, there was no possibility of Bridge Resource Management principles being in place. When he became distracted, there was nobody to bring his mistake to his attention. Had there been other watchkeepers in the wheelhouse and Bridge Resource Management principles in operation, it is probable that this incident would not have occurred.



SAFETY RECOMMENDATIONS

1. Since this incident occurred, the managers of **Santa Regina** have modified their operating procedures to ensure that the Master or Mate/Master is in the wheelhouse prior to the vessel approaching the leading marks when arriving at Wellington.
2. It is recommended that the owners comply with **Maritime Rule Part 31A Appendix 1- Navigational Watchkeeping at Sea section 4** which states:

The look-out must be able to give full attention to the keeping of a proper look-out and no other duties must be undertaken or assigned that could interfere with that task. The duties of the look out and helmsman are separate and the helmsman must 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 impediment to the keeping of a proper look out. The Officer in charge of the navigational watch may be the sole look out in daylight provided that on each such occasion-

- (a) *the Officer in charge of the watch has carefully assessed the situation taking into account all relevant factors, including , but not limited to the state of weather; visibility ;traffic density; proximity to dangers to navigation; and the attention necessary when navigating in or near traffic separation schemes; and;*
 - (b) *the Officer of the navigation watch has established without doubt that it is safe to be the sole look out; and*
 - (c) *assistance is immediately available to be summoned to the bridge when any change of situation so requires.*
3. It is not satisfactory to say that the Officer of the Watch has the con and the Master or Mate/Master is the lookout/helmsman or visa versa. Each of these officers has other duties to conduct, which preclude them from fulfilling the requirements of a look out.
 4. Since this incident, Maritime New Zealand has issued a Notice of Imposition to the Master of **Santa Regina** in regard to minimum manning required on the bridge of the vessel.
 5. It is recommended that the 2nd Officer be censured for failing to maintain a safe navigational watch.

