Australian Government
Australian Transport Safety Bureau

Safe Transport

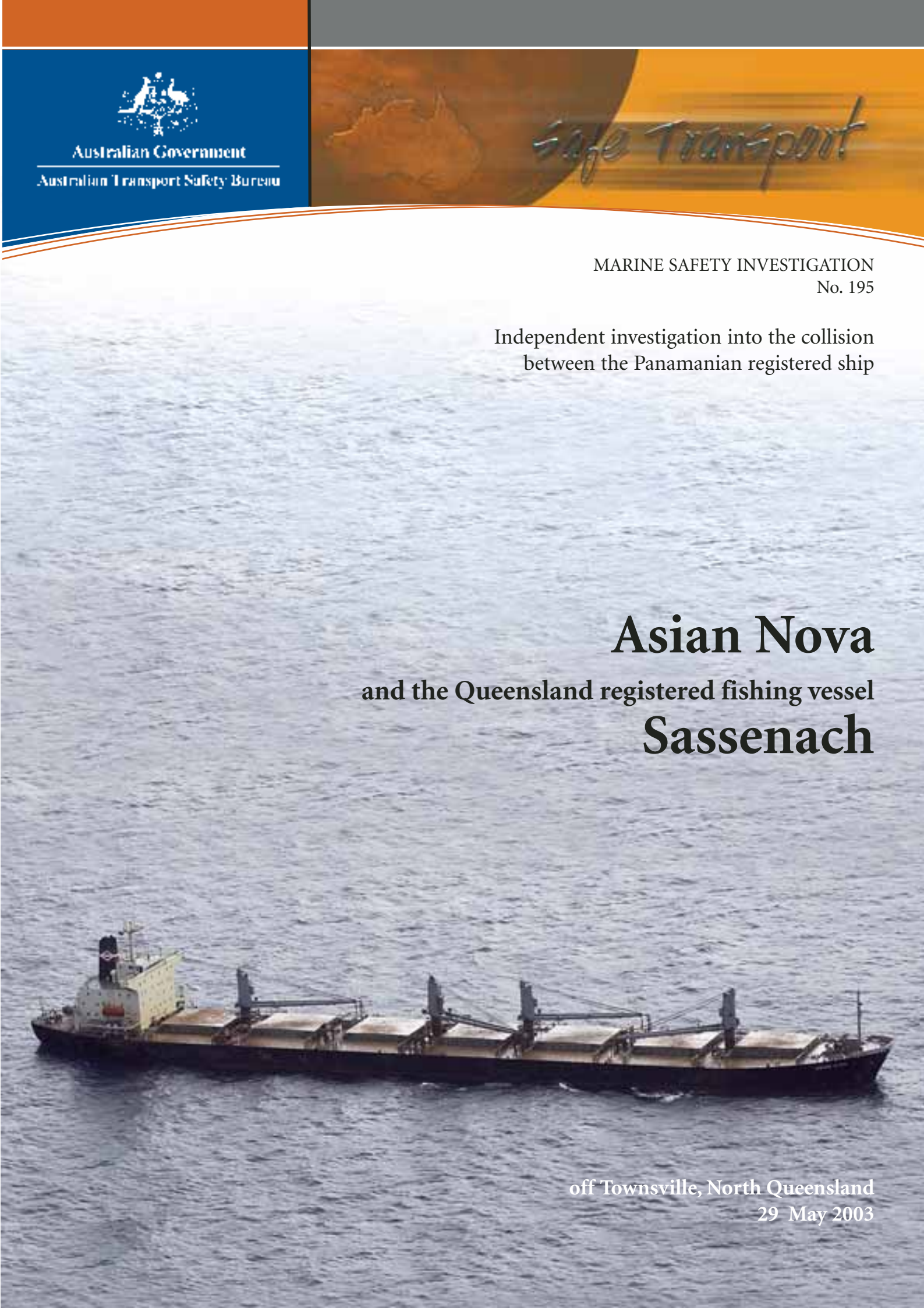
MARINE SAFETY INVESTIGATION
No. 195

Independent investigation into the collision
between the Panamanian registered ship

Asian Nova

and the Queensland registered fishing vessel

Sassenach



off Townsville, North Queensland
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Independent investigation into collision between the Panamanian registered ship *Asian Nova* and the Queensland registered fishing vessel *Sassenach*

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Released under the provisions of the *Navigation (Marine Casualty) Regulations* under the *Navigation Act 1912.*

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CONTENTS

1 SUMMARY

At about 0001 on 29 May 2003 the 225 m long Panama flagged bulk carrier *Asian Nova* fouled the warps of the Australian fishing vessel *Sassenach*. The prawn trawler was dragged against the hull of the bulk carrier, damaging its port quarter and causing it to capsize and sink.

Sassenach's skipper lost his life as a result of the collision, his body was recovered from the sunken trawler on 5 June 2003. The deckhand was able to jump clear at impact and was rescued some five hours later by a searching fishing boat.

Immediately after the collision *Asian Nova*'s master was called to the bridge, the vessel was stopped and the incident reported. *Asian Nova* remained on scene until released by Reefcentre.

The report concluded:

1. The third mate's course alteration to starboard just after 2330 was insufficient to provide an adequate passing distance astern of *Sassenach*.
2. The third mate's decision to make the relatively small alteration to starboard was made on the basis of information provided by the ARPA but was not in accordance with the company's instructions or good watchkeeping practice.
3. The third mate had sufficient sea room to make a bold alteration.
4. The proximity of the fishing vessel at the change of the watch meant that the third mate should not have handed over control of the watch until passed and clear of the fishing vessel.
5. Neither the second nor third mates followed the recommended practice, nor company requirements, or the ship's standing orders when handing over control of the navigational watch.
6. The second mate resumed the course marked on the chart before properly assessing whether it was safe to do so.
7. The second mate did not keep a proper lookout.
8. Inter-personal relations were possibly a factor in the deficient hand-over between the third and second mates.
9. The assessment by the fishing vessel crew that *Asian Nova* was passing clear was made on scanty information.

2 SOURCES OF INFORMATION

The master and officers of *Asian Nova* and ships records.

The deckhand and owner of *Sassenach*

Queensland Police and Water Police

Australian Federal Police

Reefcentre

Acknowledgment

Townsville bulletin for photos of *Asian Nova*

Australian Federal Police forensic division

The Inspector wishes to acknowledge the assistance with fishing trawl warp catenary calculations of Mr J Wakeford from The Australian Maritime College in Tasmania.

FIGURE 1:
Asian Nova

FIGURE 2:
Sassenach

3 NARRATIVE

Asian Nova

Asian Nova (figure 1) regularly trades between New Caledonia and Townsville. It is a geared 'panamax' bulk carrier of 69 925 tonnes deadweight at a summer draught of 13.291 m. It is owned by Mars Shipping Company, Panama and managed by First Marine Services, Japan. The ship is currently classed by Nippon Kaiji Kyokai (Class NK).

Asian Nova was built in 1995 by Sanoyas Hishino Meisho Corporation in Japan. The vessel has an overall length of 225 m, a moulded breadth of 32.26 m and a moulded depth of 18.3 m. The bulbous bow at loaded draught extends of 4.8 m ahead of the stem underwater. The ship is of a standard seven cargo hold design with four cargo cranes. The navigation bridge is at the forward end of the upper most deck of the accommodation block at the after end of the ship. The distance from bridge front to the bow is 192.55 m and from bridge front to aft is 32.45 m.

The ship is equipped with navigational equipment consistent with SOLAS requirements including two radar sets. Number one radar, a JRC JMA8000 in use at the time, was equipped with ARPA[1].

The main engine is a Sulzer 7RTA52U, two stroke diesel of 9 195 kW. This engine drives a single, right hand turning, fixed pitch propeller giving the ship a service speed of 14 knots.

At the time of the incident, the total number of crew on *Asian Nova* was 21. The master, chief mate and chief engineer were Korean nationals, the remainder Chinese. All the watchkeeping officers were appropriately qualified. The mates maintained a four hours on, eight hours off watchkeeping routine with the third mate keeping the 8-12 watch and the second mate keeping the 12-4 watch.

Asian Nova's master had been at sea for more than thirty years and had several years experience sailing on the Australian coast. He had joined the ship on 6 May 2003, the last time the ship was in Townsville.

The third mate also joined the ship in Townsville on 6 May. He started his seagoing career in 1995 as a seaman. He had previously served as a seaman aboard *Asian Nova*, this was to be his first voyage as a qualified deck watchkeeping officer.

The second mate joined *Asian Nova* on 11 January 2003. He had held a second mates qualification, issued in Shanghai, since May 2001 and had been serving at sea, as a watchkeeping officer, since 1997. Immediately prior to joining *Asian Nova*, he had been working ashore for about 15 months.

Sassenach

Sassenach (figure 2) was a wooden hulled, hard chined 'otter board' prawn trawler built in 1980 and owned and crewed from Townsville. The vessel was rigged to fish three nets simultaneously, one trawled from astern and one from each boom, port and starboard.

[1] ARPA is an Automatic Radar Plotting Aid

Sassenach had both Queensland and Australian registration. The boat had an overall length of 13.69 m, a beam of 4.75 m and a depth of 1.93 m. The main engine was a Caterpillar 3406, 250hp six-cylinder diesel engine which drove a single fixed pitch propeller. The boat's hull was constructed from 38 mm thick hardwood. The deckhouse was constructed from timber and plywood with a sheathing of fibreglass. The boat did not carry a radar reflector.

Sassenach was equipped with all the navigational and fishing vessels lights required under the International Regulations for Preventing Collisions at Sea, 1972. The after working deck was illuminated by two 800 watt floodlights mounted on the booms. All of the lights were controlled from a switch panel mounted on the forward console in the wheelhouse.

The boat's wheelhouse contained the steering position (adjacent to the port access door) and navigation and engine instrumentation along its forward console. This instrumentation included a JRC radar, an autopilot, a GPS[2] with plotter and an echo sounder. Aft within the main cabin was a dining and cooking area. Access from the wheelhouse to the after deck was via doors at the forward end, on both sides. A sleeping cabin with two berths was situated forward of the wheelhouse below the forecastle.

On deck, immediately aft of the starboard side of the wheelhouse was a lavatory and shower. The trawl winch was to the port side of the lavatory. On the working deck there was a hatch and prawn cooker. Immediately aft of these was the catch sorting tray.

At the time of the incident, the boat had a crew of two, a skipper and deckhand.

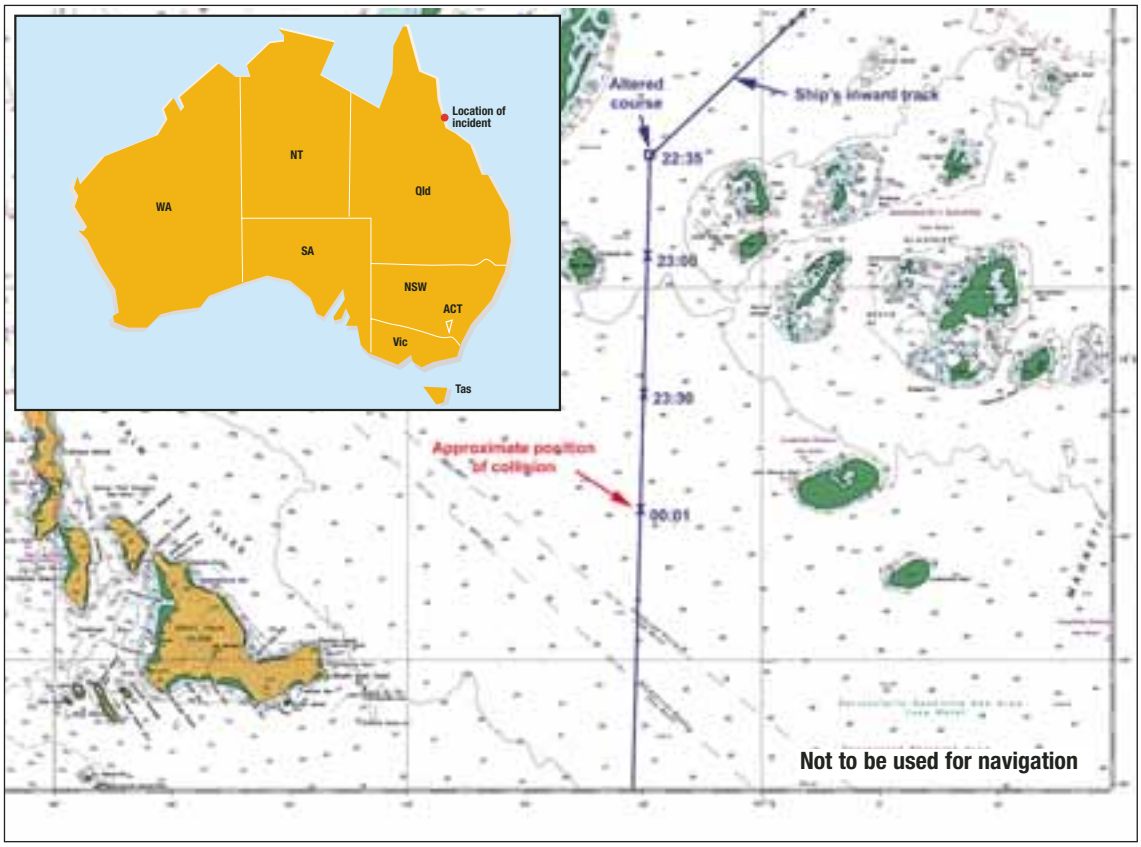
The skipper had worked on fishing boats for about 40 years, ever since he left school. For the last three years he had been skipper on *Sassenach* and worked out of Townsville fishing mainly for prawns. He held a Master Class V certificate issued by Queensland Transport. His previous boat had also worked from Townsville and he had earlier also worked in the Gulf of Carpentaria.

The deckhand had worked on fishing boats for about 40 years, in northern New South Wales, where he had been skipper, and latterly in Queensland. He had no formal marine qualifications and had been on *Sassenach* for the previous three years.

Ordinarily, during the prawn fishing season *Sassenach* trawled for periods of about ten to twelve days before returning to port to land the catch and refuel. Time in port was limited to a day or two, before *Sassenach* returned to the fishing grounds. The routine while fishing was to trawl each night and to anchor during the daylight periods when the crew slept and undertook routine chores.

[2] GPS is the Global Positioning System

FIGURE 3:
Section of chart Aus 828



The incident

Asian Nova

At 2210 on 24 May 2003, *Asian Nova* sailed from Kouaoua, New Caledonia for Townsville, via Palm Passage in the Great Barrier Reef. The ship was loaded with a full cargo of nickel ore (60 752 tonnes). The departure draught was 13.1 metres, even keel.

At 2100 on the evening of 28 May, the ship approached Pith Reef, at the eastern entrance to Palm Passage. The ship was making about 11 knots, the wind was from the south-east at about 20 knots (force 5 on the Beaufort Scale) and there was a two metre sea. The third mate (OOW) plotted the ship's position on the navigational chart from the GPS readout. He then altered course to 226°(T) in accordance with the voyage plan to pass through the Passage. He reported entering the channel by VHF18 (Very High Frequency Radio channel 18) to Reefcentre[3] as required under the Reef Reporting Protocol. The VHF radio was also monitoring VHF16. The visibility at this time was good and the ship's number one, automatic radar plotting aid (ARPA), radar was operating. The ship's second radar remained on standby.

During the evening, from about 2130 onward, the master was completing his final paperwork before arrival, moving between the radio room at the back of the chartroom and his cabin.

[3] Reefcentre is the Vessel Traffic Advisory Scheme reporting centre located at Hay Point, Queensland.

The third mate continued to plot the ship's position using GPS, and confirmed the positions using radar, as they progressed through Palm Passage. At 2235 he altered course in conformity with the voyage plan in position 18° 24.6'S 146° 55.4'E. The new course, 182°(T), would take the ship to the east of Rib Reef light and to the west of Kelso Reef and then, passing to the west of John Brewer Reef, toward the pilot boarding ground at Townsville. All of the course alterations were performed using hand steering by the duty seaman.

After 2235 the third mate saw a large group of fishing boats spread out ahead. The individual boats were also visible on the radar display. The third mate continued to plot the ship's position at fifteen-minute intervals until 2330. By this time the ship has passed well clear of Rib Reef to the west. After plotting the 2330 position, the third mate telephoned the second mate to awaken him for the midnight change of bridge watch.

After calling the second mate, the third mate put his duty seaman back on the wheel in hand steering. He had plotted the group of fishing vessels ahead using the ARPA and saw that they were heading mostly toward the east but considered that they would pass unacceptably close ahead. He ordered an alteration of course to starboard to 192°(T) to pass astern of the closer fishing boats.

At about 2345 the duty 2000–2400 seaman was relieved at the wheel by the 0000–0400 seaman and the ship continued in hand steering on a heading of 192°(T).

At 2350 the second mate arrived on the bridge to start his watch. According to the third mate's recollection at this time the closest fishing vessel was about 30° on the ship's starboard bow at a range of three nautical miles. In all there were three vessels ahead on the ship's starboard side which the third mate had calculated would pass clear if the ship maintained its heading of 192°(T).

After a quick handover, which mainly involved discussion on completing the voyage documentation when the ship arrived at Townsville in two hours time, the third mate left the bridge. There is some dispute about what navigational and traffic information the third mate passed to the second mate. The third mate contended that the heading and the reason for it was passed but the second mate denies this was the case.

Sassenach

Sassenach, with its crew of skipper and deckhand, had sailed from Townsville at about midday on Sunday 25 May 2003 to trawl for prawns in the area to the east of Great Palm Island. On this trip *Sassenach* was to work an area to the west of John Brewer Reef each night, anchoring near the reef during daylight with the other eight to ten boats working the same area.

On the evening of 28 May, after a day at anchor, *Sassenach* left the anchorage at about 1730. The first trawl was toward the north-west of Great Palm Island. The water depth in this area is about 40 metres and *Sassenach* had about 160 metres of wire out to allow the nets to trawl through the prawn schools at and near the ocean floor. At the end of this trawl both crew members hauled in and sorted the catch in the sorting tray on the after deck. They then turned the boat toward John Brewer Reef for their next trawl in a south-easterly direction. After the nets had been re-shot and the boat was settled on course, the skipper went below to rest until required again at the end of the trawl. The boat was heading south-east at about 2.5 knots using the autopilot.

At about 2330 the deckhand first noticed on radar an approaching ship near the port beam, but was not concerned. It was the only large ship in the area and he thought that *Sassenach* had all required lights showing. There were other boats in the area so he thought they should all be easily visible.

Just before midnight the deckhand called the skipper back on deck in preparation for hauling the nets and told him of the approaching ship. The skipper came to the wheelhouse, saw the white foremast light and the green starboard sidelight of the now very close bulk carrier, and said to the deckhand

> "its ok - its giving us a green"

(indicating that he expected the ship to pass closely on *Sassenach*'s port side and then pass ahead of the fishing boat). The skipper then commenced dressing for work. The deckhand went out on the deck on the port side of the boat to also prepare for the landing the catch.

Collision

Shortly after taking over the navigational watch, the second mate of *Asian Nova* saw that the course being steered was different from that planned and drawn on the navigation chart. Despite the fishing vessels being nearby, he made a cursory visual assessment and altered course to port, firstly to 185°(T) and then almost immediately to 182°(T). *Sassenach* was now on his starboard bow crossing from starboard to port and very close. When the ship had steadied on the new course the second mate suddenly realised the danger. He ordered hard-a-starboard and watched as the bow of his ship started to move to starboard.

At approximately 0001 on 29 May 2003, the bulbous bow of *Asian Nova* caught the warps near the stern of *Sassenach*. As the ship continued to move ahead and swing to starboard away from the boat, which was now on its port bow, the nets caught on the bulbous bow pulled the fishing vessel astern and in toward the shoulder of the ship. The fishing vessel was now beam on to and in the bow wave created by the loaded bulk carrier. *Sassenach* was rolled over onto its starboard side and then sank in approximate position 18°40.15'S 146°54.8'E as the ship passed. The second mate had seen *Sassenach* sink and called the master who immediately came to the bridge, assessed the situation, and then sounded the emergency signal to alert the ship's crew. He then switched on all the ship's lighting. At 0008 the master called Reefcentre to report the incident and its location.

Asian Nova remained under way in the area, searching for the crew from the fishing boat. The other fishing vessels in the area also joined the search. At 0420, *Asian Nova* anchored about 9 miles west of John Brewer Reef, 3 miles north-north-west of the collision point. The ship weighed anchor at 0905 and arrived at the Townsville anchorage at 1305.

On board *Sassenach* the deckhand, who was outside the wheelhouse on the port side, called out to the skipper and jumped overboard as the vessel rolled under his feet. When he surfaced he grabbed some flotsam floating nearby and then turned to see the stern of the boat as it sank. He then saw the lid of the sorting tray nearby and tied himself to that as he awaited rescue from the vessels and helicopters searching nearby. A fishing boat searching in the area finally located and rescued the deckhand at about 0500 just as it was getting light. He was taken ashore to Townsville hospital and

medically examined before being released. The skipper was not found during the sea search.

On 4 and 5 June 2003 the Queensland Police Service and ATSB[4] mounted a dive on the sunken fishing vessel to mark its exact position and search for the skipper who was still missing. The divers recovered the body of the skipper, which was located in the forward cabin of the submerged fishing vessel. *Sassenach* was also examined by the divers and its position noted for a later salvage attempt. Details of the vessel's equipment and damage were noted.

Between 6 and 9 August a first attempt at salvaging *Sassenach* was made but this was aborted due to unsuitable weather conditions. The salvage process was continued on 20 August and the boat recovered to the surface on 23 August 2003 and taken to Townsville for further examination.

[4] ATSB is the Australian Transport Safety Bureau

4 COMMENT AND ANALYSIS

Evidence

An investigator from the Australian Transport Safety Bureau attended *Asian Nova* on 29 and 30 May 2003, while the ship was at anchor off Townsville. Interviews were conducted with the master, officers and relevant crew members. Copies of the ship's documents, charts, voyage plan and other relevant records were obtained for later review and analysis. The ship was fitted with both a course recorder and an engine movement logger but neither of these instruments were in operation at the time of the incident.

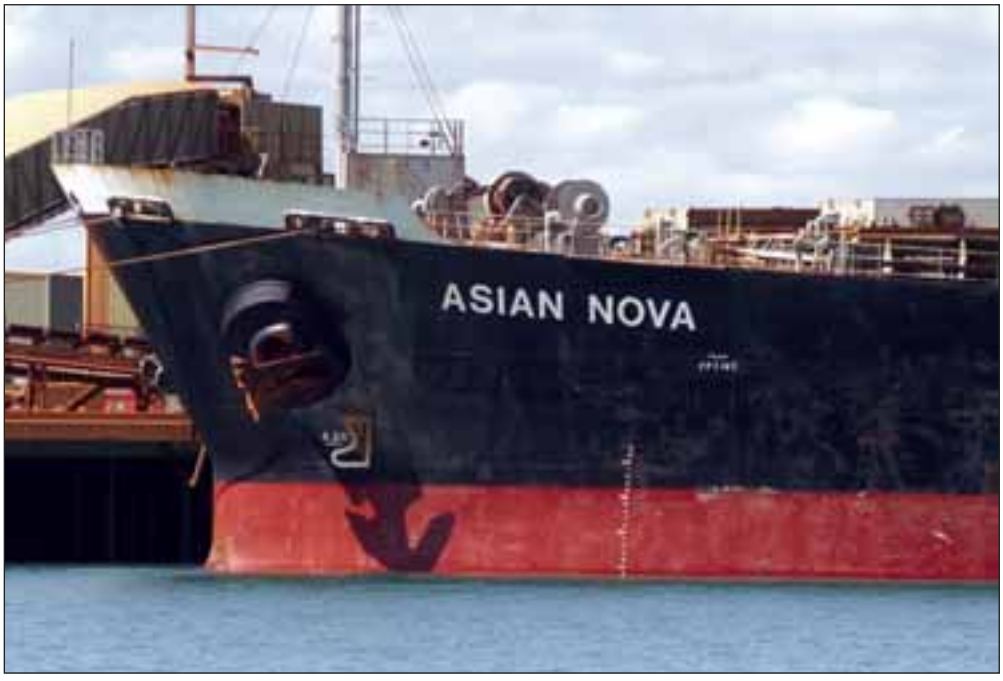
ATSB investigators interviewed the deckhand and owner of *Sassenach* on the same day at Townsville.

Evidence was obtained by the divers employed on 4 and 5 June to examine *Sassenach* and recover the skipper's body. Further evidence was obtained when the boat was recovered on 23 August. There was damage to the hull in way of the port quarter and damage to the booms. In the main cabin, the position of switches and other equipment was noted and the boat's GPS unit and radar were recovered for scientific examination by the Australian Federal Police forensic services. The switch for the port side sidelight was found to be in the off position. While falling debris may have caused the switch to open, the probability is that the port side light was not illuminated.

This report draws upon these interviews and the other documentary and recorded evidence collected from the ship and boat. Copies of the recorded VHF radio conversations were obtained from Reefcentre for review.

The investigation was severely hampered by the lack of objective evidence relating to the ship's heading and rudder movements.

FIGURE 4:
The port bow of *Asian Nova*



Collision and capsize

In the time before the collision, *Sassenach* was reportedly trawling in a south-easterly direction, while *Asian Nova* was on a course of just west of south. Whether *Sassenach* was a crossing vessel or being overtaken is open to question. On balance, it is probable that *Asian Nova* was coming up on *Sassenach* from a direction around 33 degrees abaft of the fishing vessel's beam. *Sassenach*'s sidelights in this case would not have been visible from the bulk carrier and thus the illumination of fishing vessel's port side light was not a factor in the collision. In any event, *Sassenach* was displaying its 'green over white' all around trawling lights and the third mate had correctly identified these as the lights of a vessel engaged in fishing (trawling) and that *Asian Nova* had a clear and unambiguous duty to keep clear.

There is no documentary evidence to support their accounts, but both the third mate and second mate agreed that third mate left the bridge a little before 0000 and probably closer to 2350. The time of the collision was about 0001. *Sassenach*'s course and speed was constant throughout at about 135°(T) at 2.5 knots as recalled by the deckhand who was on watch leading up to the incident. To have arrived at the point of collision, ten minutes before the collision, when the watch changed on the ship, *Sassenach* must have been about 10° on *Asian Nova*'s starboard bow at 1.7 miles not 3.0 miles and 30° as the third mate remembered. At this time both vessels would have been able to clearly see each other.

Asian Nova's course and speed for most of the 20 minutes prior to the collision was 192°(T) at about 11 knots. The second mate indicated that he ordered the initial course adjustment to 185°(T) very soon after the third mate had left the bridge. At this time *Sassenach* was probably bearing between 200°(T) and 195°(T) from *Asian Nova*. The alteration of course from 192°(T) to 185°(T) and then to 182°(T) brought the fishing vessel close under the bow, and slightly to starboard of the ship's advance.

Initially there was no direct contact between the hulls of the two vessels. *Sassenach*'s capsize was primarily the result of the *Asian Nova*'s bulbous bow fouling the fishing vessel's trawl warps. The contact between the hulls occurred when the fishing vessel was dragged in toward the ship's hull by the bulk carrier's forward momentum and swing to starboard which caused the damage to *Sassenach*'s port quarter and the subsequent capsize.

The following information allowed some calculations about relative positions to be made:

1. Being fully loaded, the ship's bulbous bow projected a maximum 4.8 metres ahead of the stem down to a depth of 13.1 m (forward draught) below the water surface.

2. The water depth at the collision position was about 40 metres and during the trawl, *Sassenach* had deployed about 160 metres of wire (warp). The wires led from a block about two metres above the water.

3. The ships half beam is 16 metres.

The second mate estimated that, when he started to take the starboard avoiding action, the fishing vessel was about one boat-length clear of the ship's side. In this position, at the centreline of the ship, the wires would have been at a depth of about

16.2 metres (allowing for any catenary[5] of the wire) and so would not have caught the ship's structure. The boat must have been less than five metres (one third of *Sassenach*'s length) clear of the ship's side for the warps to be at a depth of 13 metres (the ship's forward draught) or less.

Actions of the third mate

The collision occurred in clear weather between two vessels, one of which was showing navigation lights, and the other trawling lights and bright working lights. More than an hour before the collision the third mate had identified the fishing vessels ahead and to starboard of *Asian Nova*. He stated that the bright working lights of the fishing vessels obscured any navigation lights (side lights or stern light) which would have indicated visually whether or not *Asian Nova* was overtaking the fishing vessels or whether they were crossing vessels. Despite their bright deck lights the third mate had seen that the vessels were displaying fishing lights and had plotted the vessels using the ARPA which indicated the fishing vessel's courses and speeds and that there was a risk of collision with *Sassenach*. He recognised that *Asian Nova* had a clear duty to keep out of the way of the trawling vessels.

Shortly after 2330, the third mate altered course to starboard by ten degrees, to 192° (T). This was a routine alteration, there was in excess of 10 miles of clear water on the ship's starboard side at the time, and there was no reason for the third mate to inform the master. The relatively small alteration of course did not leave *Sassenach* on the port bow, or even ahead. The alteration of course left the fishing vessel on the starboard bow and relied upon *Sassenach* (and the ship) maintaining its course and speed to cross safely ahead of the bulk carrier.

The third mate's decision to make a relatively small alteration of course of ten degrees to starboard was based on the information provided by the ARPA computer attached to his radar. Prior to the introduction of ARPA, it was accepted practice for bridge watchkeepers, when giving way to a crossing vessel, to alter course by an amount that placed the other vessel, either directly ahead, or fine on the port bow. This provided an immediately visible cue for the watchkeeper of the crossing vessel that a course alteration had been made and the intentions of the give way vessel. It also reduced the need to make any calculations as this action ensured that the closest point of approach continually increased from the time of the course alteration onward. ARPA has allowed watchkeepers to reduce this passing distance because the computer calculates these passing distances almost immediately.

The Colregs - the International Regulations for Preventing Collisions at Sea, 1972, as amended, particularly Rule 8, provide guidance for watchkeeping officers in these circumstances:

> **Rule 8**
>
> (c) If there is **sufficient sea room**, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in **good time**, is **substantial** and does not result in another close-quarters situation
>
> (d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. **The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.** (ATSB emphasis)

[5] The catenary is the curved path followed by the wire and equipment due to its own weight.

Asian Nova had sufficient sea room for the third mate to make a larger alteration of course to starboard which would have left all of the fishing boats clear to port and removed any ambiguity in the course being steered. Considering the timing and circumstances of the collision, it is probable that the course of 192°(T), if maintained, would have involved a clearing distance of less than 800 m. The ship's safety management system contained guidance for bridge watchkeepers including:

> 2.1.6 (2) When adopt a safety distance, should refer following as standard
>
> B. In case of Crossing situation
>
> (b) stern direction of other vessel …..over 4L (4L= 4 times own length)
>
> (3) Should avoid largely from group of fishing boats under engaging.

These directions suggest that *Asian Nova*'s minimum clearing distance astern of *Sassenach* should have been at least 900 m (4 x 225 m) and probably more in the case of a group of fishing vessels. By any reasonable measure the third mate's alteration of ten degrees to starboard to 192°(T) was insufficient. In any event, it would only have taken a few minutes for *Asian Nova* to clear *Sassenach* and it would have been sensible, and in accordance with normal practice and the ship's standing orders, for the third mate to remain on the bridge until clear of the trawling vessel.

Handover of the watch

The second mate arrived on the bridge at 2350. The watch handover was brief and it would seem that the third mate left the bridge at least five minutes before midnight. The evidence offered was that the hand over consisted mainly of a brief discussion relating to the paperwork required at the end of the passage. The second mate claimed that he was not told the required navigational or traffic information by the third mate, but admitted that neither did he insist that he be given the information he required, prior to agreeing to take control of the ship. The watch handover between the second and third mates was totally inadequate and was a directly causal in the collision.

In addition to any basic 'common sense' approach to briefing oncoming watchkeepers, the hand-over did not conform to the ship operator's procedures. The ship carried three documents relating to safe navigation, The International Chamber of Shipping (ICS), Bridge Procedures Guide' Third edition 1998, First Marine Services procedures required under the International Safety Management Code and the ship's standing orders.

The ICS Bridge Procedures Guide, under Duties of the officer of the watch (OOW) advises:

> 3.2.6 The OOW should not hand over the watch if there is any reason to believe the relieving officer is unfit to, or temporarily unable to, carry out his duties effectively.
>
> If a manoeuvre or other action to avoid a hazard is taking place at the moment the OOW is being relieved, handover should be deferred until such action has been completed.

The ICS Bridge Procedures Guide also provides a check list (B12) covering the minimum information exchange required when handing over the watch. This

includes the movement of other vessels and possible hazards that may be encountered.

The First Marine Service procedures required that:

> 2.1.1 The officer of the watch should keep his watch on the bridge, in no circumstances should he leave the bridge until **properly relieved**. (ATSB emphasis)

And further:

> 2.4 Changing Over the Watch
>
> (1) The officer of the watch should acquaint surely with following information to the relieving officer.
>
> A. course, speed and position
>
> C. movement of vessels in vicinity/effect on own ship

Both of these documents were supported by a third document, the ship's Standing Orders. Article 16 provides a check list of the conditions that the relieving officer must meet before taking control. These include issues such as night vision, a full appreciation of the ship's position, the course being steered and 'the presence and movement of ships in sight or known to be in the vicinity'.

Similarly Article 17 requires the officer being relieved to fully brief the relieving officer and

> if at the time the officer of the watch is to be relieved a manoeuvre or other action to avoid any hazard is taken place, the relief of the officer shall be deferred until such action is complete.

Regardless of what he did or did not tell the second mate in relation to the fishing vessel traffic in the area and the course being steered, the third mate had a clear duty to stay on the bridge until the manoeuvre to avoid *Sassenach* was complete. Why he was apparently so eager to leave the bridge is a matter for some conjecture.

The third and second mates were both Chinese nationals but came from different areas in China and did not know each other prior to joining *Asian Nova*. Even though they are both about the same age, they had had different career paths. The second mate came through a direct officer training system whereas the third mate had been a seaman before recently being promoted to third mate. At interview, it was evident that there was tension between the two men. It is impossible to say whether their 'cool' relationship was a result of the collision, but the impression is that a degree of friction was present between the two men before the accident. It is a strong possibility that their relationship had an affected both men's approach to the hand-over of the watch.

Actions of the second mate

After accepting the watch the second mate almost immediately altered course to port after, at best, a cursory assessment of the ship's situation. This indicates that he had either not been told of the close proximity of *Sassenach* or that he had not registered this information for some reason. There were other cues which should have indicated that the ship was in the process of a manoeuvre which were also ignored by the second mate including the deviation from the charted course and that the fact that his lookout was hand steering.

Even though he may not have been alerted to the proximity of the fishing vessels, *Sassenach* was within 2 miles of *Asian Nova* at the time of change of watch. *Sassenach*'s working lights cast a bright pool of light, so it is hard to imagine that the second mate could not have seen it, even if he had not acquired a normal level of night vision. As he was called by phone at, or just after 2330, it also seems improbable that he was unduly affected by sleep inertia.[6]

Asian Nova's bridge front is just under 200 m from the bow and the ship's four cranes on the centreline may have impaired the view from the bridge in a small arc directly forward of the ship and possibly the second mate's view of *Sassenach*. But again the working lights of fishing vessels at close range set up a level of 'glare', which makes it improbable that, if he had looked as he moved around the front of the bridge, he would not have been aware of the fishing vessel. The evidence is that he was using binoculars at the time of the critical alteration. If so, these would have narrowed his field of vision and any check he made to see if it was safe to alter course was completely deficient.

It seems that the second mate saw that the ship was steering 192°(T) rather than the charted course of 182°(T) and reacted instinctively by putting the ship on the 'correct' course. This preoccupation with constantly steering the 'correct' or laid down course and not deviating from the track indicated on the chart is a form of 'obeying the rules' to which many bridge watchkeepers become conditioned. This behaviour may be reinforced by sanctions when a more senior officer questions why there has been a deviation from the charted course. Very often the 'pencil line' may be drawn in a fairly arbitrary position on the chart when the passage is planned weeks before but for some reason it becomes sacrosanct.

Steering or maintaining a position off the laid down track can cause a degree of anxiety due to the perception of rule breaking. The longer the time period involved or the greater the offset (error), the greater the stress created. Some people, especially when a high power/distance relationship or authority based hierarchical system may be involved, resort to making the perceived 'rule breaking' error as small and as short as possible. Hence a small alteration will, in their mind, hopefully result in a safe passing distance and also satisfy the 'stay on the track' rule as much as possible. This conditioning may result in poor judgement at times and is a possible explanation but not excuse for the second mate's precipitous decision to alter course back to 182°(T) without properly assessing the ship's situation first.

The ship had not made any signal by light or whistle to indicate its actions prior to the collision. The ship's Aldis (signalling) lamp was not serviceable at the time of the incident and so could not have been used additionally even if the second mate had wanted to.

[6] ATSB aviation safety advisory notice SAN20010244, 'Sleep Inertia' is a period of poorer task performance that results immediately after awakening.

Actions of the 12–4 Seaman

The 12–4 seaman came to the bridge at 2345 and immediately relieved the man at the wheel. According to his account, when he arrived on the bridge he saw a number of vessels in the area. However, when it came to the critical alteration of course to resume the ship's designated course, he stated that he was concentrating on the compass and did not see the fishing vessel with which they collided until the last seconds.

The fact that the seaman was assigned to steering the ship, which was a reasonable and sensible precaution, meant that the effective lookout was left to the second mate. In the circumstances this 'one man' lookout was not sufficient to prevent the collision.

Collision – *Sassenach*

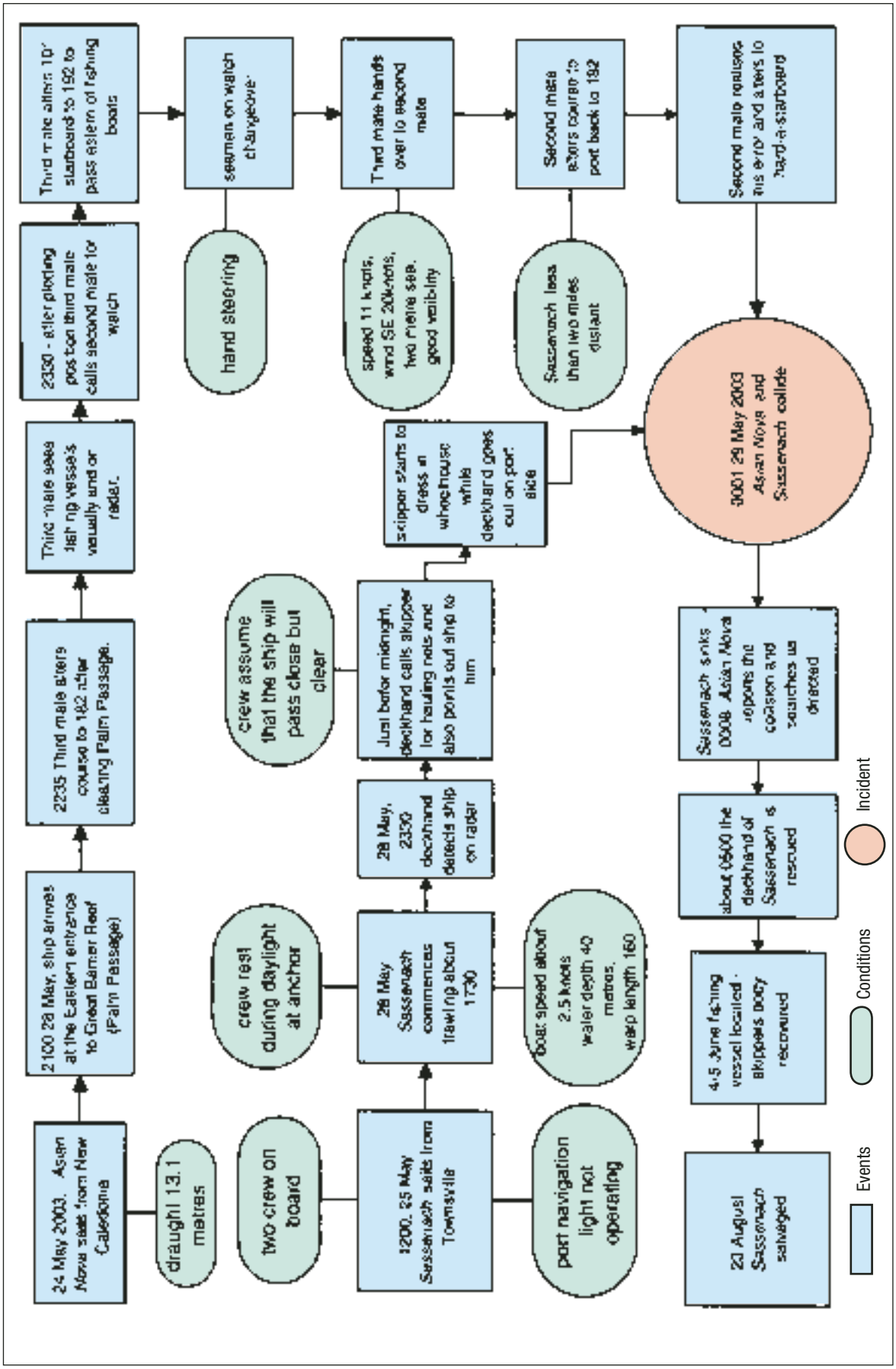
The deckhand had detected the presence of *Asian Nova* on radar about 2330. He was not concerned about the ship as he was happy that *Sassenach* was displaying the correct navigation and trawling lights and was easily visible. He knew the ship was required to 'give way'. When he was called, the skipper saw the ship's foremast and starboard sidelight. The skipper's reaction was that the ship was showing a clear green (sidelight) and would pass clear ahead of the boat. This assumption was made on scanty information.

The deckhand then started to prepare himself for recovering the trawls and stopped observing the approaching vessel. If he had, at some time shortly before impact he would probably have seen both sidelights and would have seen the masthead lights come into line. This may have provided a brief warning of the imminent collision. Given the actions of *Asian Nova*, there would probably have been insufficient time for the crew on *Sassenach* to have taken any effective action to avoid the collision on their own account.

Drugs and Alcohol

There was no evidence that neither alcohol nor drugs, prescribed or illicit, were taken by any of those involved in the collision.

FIGURE 5:
Asia Nova/Sassenach: **Events and causal factor chart**



5 CONCLUSIONS

These conclusions identify the different factors contributing to the incident and should not be read as apportioning blame or liability to any particular individual or organisation.

Based on the evidence available, the following factors are considered to have contributed to the collision between *Asian Nova* and *Sassenach* of Townsville on 29 May 2003:

1. The third mate's course alteration to starboard just after 2330 was insufficient to provide an adequate passing distance astern of Sassenach.
2. The third mate's decision to make the relatively small alteration to starboard was made on the basis of information provided by the ARPA but was not in accordance with the company's instructions or good watchkeeping practice.
3. The third mate had sufficient sea room to make a bold alteration.
4. The proximity of the fishing vessel at the change of the watch meant that the third mate should not have handed over control of the watch until passed and clear of the fishing vessel.
5. Neither the second nor third mates followed the recommended practice, nor company requirements, or the ship's standing orders when handing over control of the navigational watch.
6. The second mate resumed the course marked on the chart before properly assessing whether it was safe to do so.
7. The second mate did not keep a proper lookout.
8. Inter-personal relations were possibly a factor in the deficient hand-over between the third and second mates.
9. The assessment by the fishing vessel crew that Asian Nova was passing clear was made on scanty information.

6 RECOMMENDATIONS

MR 20040039

Masters and ship's officers should follow the correct procedure and guidelines to ensure a safe handover of watch.

MR 20040040

During the hours of darkness when watchkeeping seamen are assigned other duties that inhibit their ability to maintain a proper lookout, ship's masters should ensure that an additional lookout is available to be posted.

MR 20040044

Ships equipped with recording instruments for course, engine movement or any other parameter relevant to the safety of navigation during a passage should be required to ensure that they are operational and running when underway.

7 SUBMISSIONS

Under sub-regulation 16(3) of the Navigation (Marine Casualty) Regulations, if a report, or part of a report, relates to a person's affairs to a material extent, the Inspector must, if it is reasonable to do so, give that person a copy of the report or the relevant part of the report. Sub-regulation 16(4) provides that such a person may provide written comments or information relating to the report.

The final draft of the report, or relevant parts thereof, was sent to the master, second mate, third mate and owners of *Asian Nova*. Drafts were also sent to the owner and deckhand and next of kin of the skipper of *Sassenach*.

Where appropriate the text has been change to correct the draft or reflect the submission.

8 *ASIAN NOVA*

IMO Number	9109495
Flag	Panama
Port of Registry	Panama
Classification Society	Nippon Kaiji Kyokai (ClassNK)
Ship Type	Geared 'Panamax' Bulk Carrier
Builder	Sanoyas Hishino Meisho Corporation
Year Built	July 1995
Owners	Mars Shipping Co, Panama
Ship Managers	Daiichi Chuo Kisen Kaisha, Japan
Gross Tonnage	36 666
Net Tonnage	23 279
Deadweight (summer)	69 925 tonnes
Summer draught	13.291 m
Length overall	225 m
Breadth	32.26 m
Moulded depth	18.30 m
Engine	1 x Sulzer 7RTA52U
Total power	9 195 kW
Crew	21 (Korean and Chinese)

9 *SASSENACH*

Registration Number	2508QB
Survey Authority	Queensland Transport
Vessel Type	Otter board trawler
Owner	C.K & C.F Jones
Year Built	1980
Construction	Timber
Length overall	13.69 m
Breadth	4.75 m
Engine	Caterpiller 3406, 6 cylinder diesel
Total power	186 kW
Crew	Two (Australian)

Independent investigation into the collision between the Panamanian registered ship Asian Nova and the Queensland registered fishing vessel Sassenach, off Townsville North Queensland, 29 May 2003

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