



# Collision between *F & K* and *Jolly Roger* off Groote Eylandt, Northern Territory

16 April 2009

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## Abstract

At about 0100<sup>1</sup> on 16 April 2009, the bulk carrier *F & K* collided with the Australian fishing vessel *Jolly Roger* off Groote Eylandt, Northern Territory. While *F & K* was undamaged, *Jolly Roger* listed heavily to port as a result of the collision and its crew of three had to abandon the vessel.

The ATSB investigation found that despite *Jolly Roger* being the 'give-way vessel', its skipper took no action to avoid the collision because there was no lookout being kept on board. Consequently, he was not aware of the ship's presence until immediately before the collision.

The investigation also found that *F & K*'s bridge team had detected *Jolly Roger* 20 minutes before the collision. However, they mistakenly assumed

that their ship was overtaking the fishing vessel because they had not used appropriate means to determine whether a risk of collision existed.

## FACTUAL INFORMATION

### *F & K*

*F & K* (IMO No. 9185815) is a geared handy sized bulk carrier (Figure 1). It was built in 1998 and is 177.0 m long. It has a beam of 28.4 m and a deadweight of 32,942 t at its summer draught of 10.018 m.

Propulsive power is provided by a Mitsubishi 6UEC50LSII single-acting, direct reversing, two-stroke diesel engine that delivers 6,620 kW at 108 rpm. The main engine drives a single, fixed-pitch propeller which gives the ship a service

Figure 1: *F & K*



1 All times referred to in this report are local time, Coordinated Universal Time (UTC) + 9.5 hours.

speed of about 14.5 knots<sup>2</sup>.

At the time of the incident, *F & K* was owned and operated by Fairfield Shipping, Japan, registered in Hong Kong and classed with Nippon Kaiji Kyokai (Class NK).

The ship's navigation bridge was equipped with navigational equipment consistent with SOLAS<sup>3</sup> requirements. This included two automatic radar plotting aid (ARPA) equipped radars, an automatic identification system (AIS) unit, two global positioning system (GPS) units, global maritime distress and safety system (GMDSS) communications equipment and a voyage data recorder (VDR).

*F & K*'s crew comprised 20 Filipino nationals. While at sea, the mates maintained a traditional 4 hours on, 8 hours off watchkeeping routine.

The master had 27 years of seagoing experience. He had been on board *F & K* since January 2009, initially joining the ship as chief mate. He was promoted to master 2 weeks before the incident. This was his first time in command of a ship.

The second mate held a Philippines certificate of competency which was issued in 2007. He had been a ship's officer for 2 years, having previously served as an able bodied seaman. He joined *F & K* in January 2009, initially as third mate, and was promoted to second mate 1 month before the collision.

### ***Jolly Roger***

*Jolly Roger* (Figure 2) is a commercial fishing vessel which was built in Darwin, Northern Territory, in 1979. It is 11.5 m long, with a beam of 4.34 m and a gross tonnage of 20.22.

The vessel is constructed of marine plywood sheathed with glass-reinforced plastic over hardwood frames.

The wheelhouse is located amidships, forward of a small working deck. The wheelhouse is accessed by a door on each side which led from the main deck. The helm and autopilot unit, engine controls, radar, echo sounder and very

high frequency (VHF) radio, were centrally located at the forward end of the wheelhouse. A ladder leads down to the sleeping accommodation, which is located beneath the foreccastle deck, from a hatch on the starboard side of the main deck.

**Figure 2: *Jolly Roger* after the collision, refloated**



Because of its age, *Jolly Roger* is recognised as an 'exempt fishing vessel' by Northern Territory marine authorities. As such, it is exempt from any survey requirements of the Northern Territory *Marine Act 1981*. However, it is required to carry the appropriate safety equipment, and to be manned in accordance with the Uniform Shipping Laws Code (Class 3 - fishing vessels), depending on its intended voyage<sup>4</sup>.

At the time of the incident, the hull and wheelhouse were painted white. A yellow canvas dodger was fitted around the after deck to protect the area from wind (Figure 2).

*Jolly Roger* had three persons on board, the skipper and two crew members. *Jolly Roger* was owned by its skipper and one of its crew members. The skipper held a Northern Territory Skipper Grade 3 certificate of competency, which was issued in 2001. He had worked in the fishing industry intermittently for more than 20 years.

### **The incident**

On 6 April 2009, *F & K* sailed from Japan bound for Groote Eylandt, Northern Territory, where it was to load a cargo of manganese ore. The voyage was expected to take about 10 days.

At about 0800 on 15 April, *Jolly Roger* arrived at Alyangula on Groote Eylandt. The crew spent the day there, taking on board stores and preparing for a fishing trip to Blue Mud Bay.

2 One knot, or one nautical mile per hour equals 1.852 km/hr.

3 The International Convention for the Safety of Life at Sea, 1974, as amended.

4 For operations in offshore; restricted offshore; partially smooth and smooth waters.

At 2000, *Jolly Roger's* three crew members attended a birthday dinner at the resort in the township and at 2200, they returned to the fishing vessel. *Jolly Roger* then departed Alyangula to rendezvous with a barge in the middle of Connexion Channel to refuel and take on fresh water. The crew also planned to offload the fish stored on board.

At 2257, *Jolly Roger* tied up alongside the landing barge *Coral Bay* and commenced refuelling operations. The relative movement between the two vessels prevented the transfer of the fish and at about midnight, the refuelling operation was completed.

*F & K's* voyage to Groote Eylandt was uneventful. During the evening of 15 April, the master made a note on the appropriate navigational chart where he required 1 hour's notice of arrival to be given to the ship's duty engineer. He also wanted to be called at the same position and he made a note on the chart to that effect.

At about 2345, the duty watch keeper, the third mate, called the second mate who arrived on the ship's bridge just before midnight to take over the navigational watch. Just before leaving the bridge, the third mate gave 1 hour's notice to the duty engineer and called the master. A few minutes later, he left the bridge, which was now manned by the second mate and a duty lookout.

At midnight, the ship was in position 13°35.1'S 136°32.2'E, about 10 miles<sup>5</sup> to the north of Alyangula, making good a course of 213°(T) at 14.5 knots. *F & K* was bound for the anchorage off Alyangula and the ship's passage plan followed the recommended track on the chart; which ran between Bustard and Connexion Islands and through the Warwick Channel.

At 0030, a slight course alteration to 219°(T) was made in order for the ship to run close to, and parallel with, the recommended track.

At 0010 on 16 April, *Coral Bay* weighed its anchor and departed to the northeast. At about the same time, *Jolly Roger's* skipper started the engine and put the small vessel on a north-northwesterly course, heading for Blue Mud Bay. The voyage would take between 6 and 8 hours at a speed of about 5 knots.

The skipper was at the helm. One of the crew members went to the forecabin space to prepare the bedding. The other crew member began stowing the fishing gear, fenders and generally preparing the vessel for the passage. *Jolly Roger* had its navigation lights on. The wheelhouse and afterdeck working lights were also on. The skipper did not switch on the radar.

When *F & K's* master arrived on the bridge at about 0015, he took over the conduct of the ship from the second mate, who positioned himself near the radar. From there he could keep a check on the ship's position and operate the main engine telegraph as required. The lookout also remained near the radar.

The weather in the area was partly cloudy and fine, with a light north-easterly wind and slight seas. A half moon had risen at about 2330 and it was about 30° above the horizon to the east-southeast.

At about 0040, a small target was identified on *F & K's* radar, fine on the port bow, about 5 miles away. A short time later, a white light was visually observed by the bridge team.

At about 0045, *Jolly Roger's* skipper put the steering in autopilot mode and left the wheelhouse. He went to the after working deck to discuss various matters with the deckhand.

At about 0050, *F & K's* lookout took the helm and the master ordered an alteration of course to 255°(T). At that time, the ship was to the south of the recommended track of 250°(T) between Connexion and Warwick Channels (Figure 3).

*F & K's* bridge team could clearly see white and yellow lights on the small vessel but no sidelights. This led the bridge team to believe that their ship was now overtaking the small craft and by steering 255°(T), the vessels would pass safely.

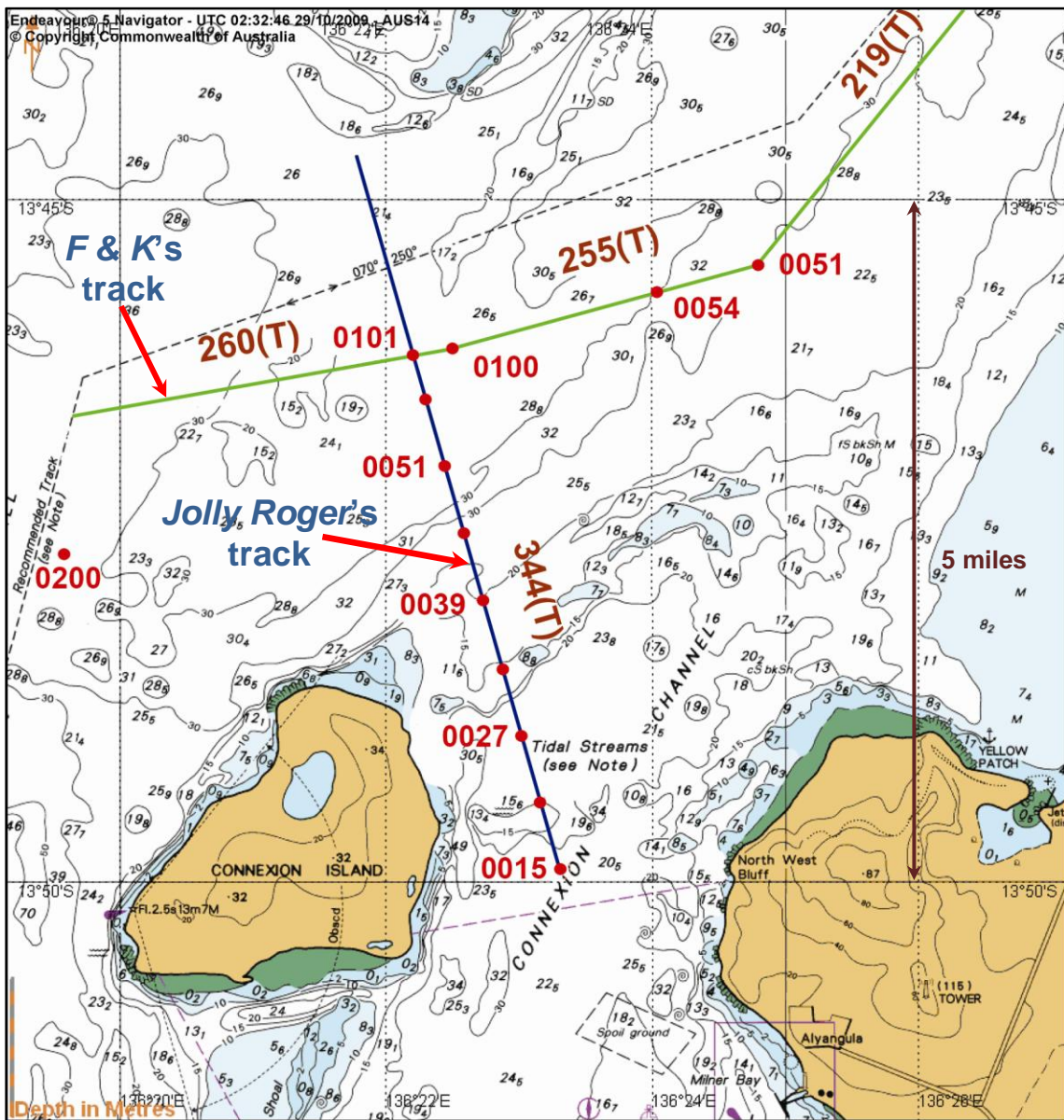
At about 0100, the master ordered a new course of 260°(T) to be steered so that the ship could maintain a separation as it overtook the small vessel, leaving it on *F & K's* port side. Although the ship was on manoeuvring full ahead, its speed made good was 15.4 knots.

As the ship drew alongside *Jolly Roger*, it appeared to *F & K's* bridge team that the small vessel turned quickly to starboard and closed on the ship.

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5 A nautical mile of 1852 m.

Figure 3: Section of navigational chart Aus 14 showing respective positions of the two vessels leading up to the collision



At about 0101, *Jolly Roger's* skipper looked out to starboard over the yellow dodger and saw a 'red thing'. He ran into the wheelhouse and put the engine out of gear. However, almost immediately, *Jolly Roger* collided with *F & K* between numbers four and five hatches on the ship's port side. *Jolly Roger* then slid down the ship's side and passed clear astern.

The collision pushed *Jolly Roger* over to port, as the starboard outrigger came into contact with the ship's hull, and water began flooding into the vessel. The deck hands managed to get clear and into one of its dinghies.

When the skipper was sure that everyone was safe and uninjured, he climbed into the wheelhouse and tried to send a mayday call on VHF channel 16. However, the handset had been submerged after the collision and did not work. The skipper then made his way along the starboard side of the now semi-submerged vessel and secured the forward hatches in an attempt to stop it from sinking completely. He then climbed into the dinghy.

At about 0103, *F & K*'s master commenced a Williamson Turn<sup>6</sup> to starboard and by about 0110, the ship had returned to the location of the collision. The master and second mate went out onto the port bridge wing and shone the daylight signalling lamp on the small vessel. They could clearly see that there were three people in a dinghy.

When *Jolly Roger*'s skipper was satisfied that his vessel was not going to sink completely, he motored the dinghy over to the port side of *F&K* and called on the master and second mate to come down to the dinghy. The master and second mate tried to establish that the small vessel's crew was safe and offered to bring them on board. This offer was rejected by *Jolly Roger*'s crew.

Having tried unsuccessfully to get *F & K*'s master and second mate to come down to talk further with them about the collision, *Jolly Roger*'s crew's decided to leave the vessel floating in the channel (Figure 4) and make their way back to Alyangula.

**Figure 4: The semi-submerged *Jolly Roger***



*F & K* stayed alongside the semi-submerged vessel as it drifted westwards towards the Warwick Channel.

At 0250, *F & K*'s master advised the Australian Rescue Coordination Centre in Canberra (RCC) that his vessel was stopped as a result of the collision. The master also advised the vessel's local agents of the incident and he tried to contact the local harbourmaster but was unsuccessful in doing so.

At about 0300, *Jolly Roger*'s crew arrived safely at Alyangula where they made their way ashore and informed authorities of the collision.

At about 0315, the RCC advised the ship that it could continue its voyage. At 0605, *F & K* anchored off Alyangula to await berthing.

## ANALYSIS

No course or position data was available from *Jolly Roger* or its crew. Its position information in this report is based on the time and location of the collision, as reported by the master of *F & K*, the anchoring position of *Coral Bay*, and on speed information provided by *Jolly Roger*'s crew.

Navigational data was not backed up to *F & K*'s voyage data recorder after the incident. Therefore, times used are based on the limited log book entries and engine data logger information on board *F & K*, times of anchoring of *Coral Bay* and estimates from the crew of *Jolly Roger*. Several times, related to relative positions between *F & K* and *Jolly Roger* leading up to the collision, have been estimated by the Australian Transport Safety Bureau (ATSB) in the reconstruction of the incident.

## Lookout

The crew members on board both vessels were obliged to maintain a proper lookout in accordance with Rule 5 of the International Regulations for the Prevention of Collisions at Sea, 1972, as amended (COLREGs).

*F & K*'s bridge team had seen *Jolly Roger* on radar at about 0040, when the two vessels were about 5 miles apart. They visually identified a white light at about 4 miles and continued to monitor the progress of the small vessel visually up until the collision. In the weather conditions at the time, the lookout maintained on board *F & K* was adequate to ensure the bridge team were aware of the presence of the small vessel.

However, at no time was the skipper or anyone else on board *Jolly Roger* aware of the presence of the large ship until the skipper looked out and saw what he described as 'a red thing' (the ship's hull) seconds before the collision.

The fishing vessel's radar was not turned on and there were no other electronic collision avoidance or warning aids on board. Therefore, it was of

<sup>6</sup> Used to turn a vessel through 180° and bring it back on its original track.

paramount importance that the skipper maintained a proper lookout at all times.

*Jolly Roger's* skipper had been at the helm for about 30 minutes after the vessel left *Coral Bay's* anchoring position. He then engaged the autopilot and left the wheelhouse. The radar was not switched on but the wheelhouse and afterdeck working lights were on.

Visibility that morning was good, with a half moon shining. Had a proper and effective lookout been maintained on board *Jolly Roger, F & K's* white navigation lights, which should have been visible at a distance of at least 6 miles<sup>7</sup>, would have alerted the crew of the fishing vessel to the ship's presence before 0040. The ship's movements could then have been monitored to see whether it presented a collision risk.

However, at about 0045, the skipper left the wheelhouse and could not maintain a proper and effective lookout. He was on the brightly lit afterdeck which had a yellow dodger fixed to the hand railing, obscuring much of the view out to either side of the fishing vessel. Consequently, neither the skipper nor the other crew member with him had any appreciation of what was happening outside their bright, enclosed environment.

*Jolly Roger's* skipper did not maintain a proper and effective lookout. Consequently, he did not know that *F & K* was in the vicinity of his vessel and that the ship presented a collision risk.

### **Risk of collision**

*Jolly Roger* was not engaged in fishing at the time of the collision. Therefore, under the COLREGS<sup>8</sup>, if a risk of collision was present, *Jolly Roger* was the 'give-way vessel' and its skipper was obliged to give way to *F & K*, which was approaching on the starboard side. However, the skipper did not see the ship until it was too late to determine whether a risk of collision existed and, if it did, to take avoiding action.

*F & K's* bridge team became aware of *Jolly Roger* about 20 minutes before the collision. When the master altered the ship's course to 255°(T), he and the second mate assumed that because they

could only see a white light on the fishing vessel, their ship was overtaking *Jolly Roger* and the master planned his actions accordingly.

Rule 7 of the COLREGs (Risk of collision) states that:

- (a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.
- (b) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.
- (c) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

Both the master and second mate made assumptions about the situation. At no time did they take a compass bearing, either visually or by radar, of the small vessel or attempt to acquire it on the automatic radar plotting aid so as to properly determine what the actual situation was and whether a risk of collision existed.

When *F & K's* bridge team first became aware of the small vessel, it was fine on the ship's port bow. At about 0050, the ship's course was altered to starboard. This then placed *Jolly Roger* about 2 points<sup>9</sup> on the ship's port bow; the master then thought that the alteration had made *F & K* an overtaking vessel and that a heading of 255°(T) would result in a sufficient passing distance between the two vessels. However, by now the compass bearing between the two vessels was almost constant and they were in danger of colliding.

Immediately before the collision, the ship's course was altered slightly to starboard in an attempt to increase the 'overtaking' distance between the two vessels. However, the master and second mate were not aware that it was a crossing situation and not an overtaking situation and, effectively, the ship was then steered into the collision.

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7 COLREGS Rule 22 (a).

8 Rule 15 – Crossing situation.

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9 Points of a compass: 1 point = 11¼°.

The fact that the bridge team did not see a green sidelight until immediately before the collision, contributed to the belief that *F & K* was overtaking *Jolly Roger*.

Had *F & K*'s bridge team properly assessed the situation before altering course at 0050, they would have had an appreciation of the other vessel's course and speed. They could have then reassessed the situation after the course alteration and that assessment would have shown that a risk of collision existed; their subsequent actions would probably have been different.

In addition, had the developing situation been properly monitored, *F & K*'s bridge team would have seen that the small vessel was not taking any action to avoid a collision. They could then have taken action to avoid the collision by altering the ship's course or speed in accordance with the COLREGs<sup>10</sup>. There was sufficient sea room available and the ship's engine speed was at manoeuvring revolutions in preparation for its arrival at Alyangula. Such action would therefore have been straightforward.

*F & K*'s bridge team made assumptions about the developing situation with the approaching vessel which were based on scanty information.

Despite being the 'stand-on vessel', *F & K*'s master did not take appropriate action to avoid the collision with *Jolly Roger* because he had not properly assessed the risk of collision.

## FINDINGS

### Context

From the evidence available, the following findings are made with respect to the collision between *F & K* and *Jolly Roger* on 16 April 2009 and should not be read as apportioning blame or liability to any particular organisation or individual.

### Contributing Safety Factors

- *Jolly Roger*'s skipper did not maintain a proper and effective lookout. Consequently, he did not know that *F & K* was in the vicinity of his vessel and that the ship presented a collision risk.

- *F & K*'s bridge team made assumptions about the developing situation which were based on scanty information.
- Despite being the 'stand-on vessel', *F & K*'s master did not take appropriate action to avoid the collision with *Jolly Roger* because he had not properly assessed the risk of collision.

## SOURCES AND SUBMISSIONS

### Sources of Information

The master and crew of *F & K*

The skipper and crew of *Jolly Roger*

Northern Territory police, Groote Eylandt

The Northern Territory Department of Planning and Infrastructure, Marine Safety Branch

### References

The International Regulations for the Prevention of Collisions at Sea, 1972, as amended (COLREGs)

Norie's Nautical Tables, England 1983

### Submissions

Under Part 4, Division 2 (Investigation Reports), Section 26 of the *Transport Safety Investigation Act 2003*, the ATSB may provide a draft report, on a confidential basis, to any person whom the ATSB considers appropriate. Section 26 (1) (a) of the Act allows a person receiving a draft report to make submissions to the ATSB about the draft report.

A draft of this report was provided to *F & K*'s master, second mate and managers, *Jolly Roger*'s skipper and crew, Groote Eylandt police, the Northern Territory Department of Planning and Infrastructure, the Australian Maritime Safety Authority and the Marine Department of the Hong Kong SAR.

Submissions were received from *F & K*'s managers, the skipper/owners of *Jolly Roger*, the Australian Maritime Safety Authority, the Northern Territory Department of Planning and Infrastructure and the Marine Department of the Hong Kong SAR. The submissions were reviewed and where considered appropriate, the text of the report was amended accordingly.

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<sup>10</sup> Rule 17 – Action by stand-on vessel.