



Report of Investigation
into the Collision between
Hong Kong Registered General
Cargo Ship “Hui Rong” and
Chinese Registered
Bulk Carrier “Peng Yan”
on 17 March 2007



The Hong Kong Special Administrative Region
Marine Department
Marine Accident Investigation Section



Preliminary Inquiry No. 1 of 2007

In accordance with Section 51 (1) of the Merchant Shipping Ordinance (Chapter 281), on 19 March 2007, the Director of Marine appointed Mr. LI San-tai, Surveyor of Ships (Nautical) to carry out a Preliminary Inquiry into the circumstances attending the casualty.

Purpose of Investigation

This incident is investigated, and published in accordance with the IMO Code for the Investigation of Marine Casualties and Incidents promulgated under IMO Assembly Resolution A.849(20). The purpose of this investigation conducted by the Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) of Marine Department is to determine the circumstances and the causes of the incident with the aim of improving the safety of life at sea and avoiding similar incident in future.

The conclusions drawn in this report aim to identify the different factors contributing to the incident. They are not intended to apportion blame or liability towards any particular organization or individual except so far as necessary to achieve the said purpose.

The MAISSPB has no involvement in any prosecution or disciplinary action that may be taken by the Marine Department resulting from this incident.

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1. Summary

- 1.1 At about 2251 local time on 17 March 2007, the Hong Kong registered general cargo ship *Hui Rong* collided with the Chinese registered bulk carrier *Peng Yan* at approximate position 30° 32.5'N 123° 15.6'E. At the time of the accident, the weather conditions were fine with northerly wind at force 4. The sea was moderate and the visibility was about 7 nautical miles (n.m.). *Peng Yan* sustained damages to the bow and *Hui Rong* sank shortly after the collision. Twelve crew members of *Hui Rong* were rescued. Eight crew members were found missing and nine crew members were drowned.
- 1.2 The investigation revealed the following probable causes of the collision:
 - 1.2.1 *Hui Rong*, being a stand-on vessel in a crossing situation, appeared to have failed to comply with Rule 17 of the Collision Regulations (COLREGS) by taking the advice of give-way vessel *Peng Yan* and altered course to port.
 - 1.2.2 *Peng Yan* which was a give-way vessel to *Hui Rong* appeared to have failed to comply with Rule 16 of the Collision Regulations (COLREGS) by not taking early action to keep well clear of the other vessel.

2. Description of the vessels

2.1 *HUI RONG*

2.1.1 Particulars

Port of Registry	:	Hong Kong, China
IMO No.	:	7525748
Call sign	:	VRXD7
Type	:	General Cargo Ship
Year Built	:	1977
Gross Tonnage	:	14,417
Net Tonnage	:	8,065
Length Overall	:	164.40 metres
Breadth	:	22.86 metres
Summer Draft	:	10.4 metres
Main Engine	:	DIESEL 7RND68
Engine Power	:	8,616 kW
Speed	:	14 knots
Class	:	Lloyd's Register (LR)

2.1.2 *Hui Rong* was a general cargo ship classed with Lloyd's Register. It had 4 cargo holds with a grain capacity of 28,154 cubic metres and a bale capacity of 26,725 cubic metres. The accommodation and the main machinery space were situated aft. The navigational equipment consisted of two sets of radar with an Automatic Radar Plotting Aid (ARPA), two sets of Very High Frequency (VHF) radiotelephone, two sets of Global Positioning System (GPS) Navigator, a gyro compass, a magnetic compass, a course recorder, an echo sounder and an Automatic Identification System (AIS).

2.1.3 The vessel was manned by a Master, three deck officers, four engineers, a radio officer, an electrical officer and nineteen ratings. All crew members were Chinese nationals.

2.1.4 *Hui Rong* was engaged in trading between the ports in South-East Asia region.



Figure 1- *Hui Rong*

2.2 *PENG YAN*

2.2.1 Particulars

Port of Registry	:	Shenzhen, China
IMO No.	:	8020563
Call sign	:	BQAG
Type	:	Bulk Carrier
Year Built	:	1981
Gross Tonnage	:	34,886
Net Tonnage	:	18,916
Length Overall	:	223.0 metres
Breadth	:	32.2 metres
Summer Draft	:	12.44 metres
Main Engine	:	DIESEL IMI-SUIZER 6RND-76M
Engine Power	:	10,584 kW
Speed	:	12.5 knots
Class	:	China Classification Society

2.2.2 *Peng Yan* was a bulk carrier classed with China Classification Society. It had seven cargo holds with a grain capacity of 73,558 cubic metres. The accommodation and the main machinery space were situated aft. The navigational equipment consisted of two sets of radar with an Automatic Radar Plotting Aid (ARPA), two sets of Very High Frequency (VHF) radiotelephone, two sets of Global Positioning System (GPS) Navigator, a gyro compass, a magnetic compass, a course recorder, an echo sounder and an Automatic Identification System (AIS).

2.2.3 The vessel was manned by a Master, three deck officers, four engineers, an electrical engineer and eighteen ratings. All crew members were Chinese nationals.

2.2.4 *Peng Yan* was engaged in trading between the ports in China.



Figure 2- *Peng Yan*

3. Sources of Evidence

3.1 Owner of *Hui Rong*.

3.2 Owner of *Peng Yan*.

3.3 Maritime Safety Administration, China.

4. Outline of Events

4.1 Account of *Hui Rong*

- 4.1.1 At the time of the collision, only the Third Officer and watchkeeping quartermaster were on duty in the wheelhouse. The Third Officer was found missing after the collision and the following information was provided by the survived quartermaster and other crew members such as Chief Officer, etc..
- 4.1.2 *Hui Rong* departed from Xingang, China at about 1530 with a cargo of steel and chemical products and coke on 15 March 2007 to Bangkok, Thailand. Noon position of the vessel on 17 March 2007 was 32° 45'N 123° 08'E. The vessel was on a course of 176°T with a speed of 12.9 knots.
- 4.1.3 The quartermaster reported duty at the wheelhouse at 2205 and he was instructed by the Master to go down to deck to close the doors of the masthouse. At 2215 the quartermaster returned to the wheelhouse and he observed that there was a vessel on the port side showing green sidelight at a range of about 2 nautical miles (n.m.). There was no other traffic in the vicinity.
- 4.1.4 At about 2220 the Master left the wheelhouse after completing the night order book. At about 2230 the Third Officer of *Peng Yan* communicated with the Third Officer of *Hui Rong* on channel 16 of VHF. They exchanged information on their departure ports and next ports.
- 4.1.5 At about 2235 *Peng Yan* requested *Hui Rong* to take avoiding action to alter course to port by putting the helm 10° to port and *Peng Yan* would take avoiding action by altering course to starboard to keep clear of the former vessel. *Hui Rong* agreed with *Peng Yan* and altered course to port by putting the helm 10° to port. Two to three minutes later, *Peng Yan* requested *Hui Rong* to put the helm hard to port and *Hui Rong* took avoiding action accordingly.
- 4.1.6 When the two vessels were at very close range, *Hui Rong* informed *Peng Yan* that she could not take any action to avoid collision and requested *Peng Yan* to alter course to starboard as early as possible. There was no response from *Peng Yan* and the two vessels collided.
- 4.1.7 Between 2245 and 2250, the bow of *Peng Yan* struck the No. 3 cargo hold of *Hui Rong* and the latter vessel sank after 15 to 20 minutes.

4.2 Account of *Peng Yan*

- 4.2.1 *Peng Yan* departed from Huanghua Gang, China at about 1132 with 56,330 tonnes of coal cargo on board on 15 March 2007 to Xiji, China. Noon position of the vessel on 17 March 2007 was 32° 35.8'N 123° 17.8'E. The vessel was on a course of 179°T with a speed of 11 knots. At 2130 on 17 March, 2007 when the ship was at a position 30° 45.6'N 123° 19.6'E, she altered course to port to 196 °T from a course of 179°T with a speed of 11.7 knots.
- 4.2.2 At 2220 Third officer observed *Hui Rong* on the radar bearing 330°T at a range of 0.5 n.m. and at 2250 the latter vessel bore 25 ° on her starboard bow at a range of 0.3 n.m. Third Officer contacted *Hui Rong* on VHF Channel 16 requesting *Hui Rong* to alter course to port and informed *Hui Rong* that *Peng Yan* would alter course to starboard to keep clear of the stern of the former vessel. *Hui Rong* agreed to *Peng Yan*'s proposed avoiding actions and the latter vessel alter course to hard to starboard.
- 4.2.3 At 2252 Third officer observed that the bow of *Peng Yan* was heading towards *Hui Rong* but the range was unknown. At 2254 the bow of *Peng Yan* struck the starboard side of *Hui Rong* at a position between No. 3 and No. 4 cargo holds at an angle between 70° to 80°. The collision position was 30° 32.5'N 123° 15.6'E.
- 4.2.4 After the collision, Third Officer immediately called the Master who went up to the bridge and *Hui Rong* sank within 20 minutes. At the time of the collision, only the Third Officer and watchkeeping quartermaster were on duty in the wheelhouse.

4.3 Automatic Identification System (AIS)

- 4.3.1 AIS is a ship and shore based broadcast system, operated in the VHF maritime band. It uses Self-Organising Time Division Multiple Access (SOTDMA) technology to ensure stable and reliable ship-to-ship and ship-to-shore high frequency broadcast. The system is capable of sending and receiving automatically ship information such as identity, position, course, speed, ship particulars and cargo information ship-to-ship and ship-to-shore. As the collision took place outside the VTS coverage, the AIS information from both vessels were recorded by nearby Zhoushan VTS station and was used for investigation purpose. The collision tracks of both vessels are indicated in Figure 3.

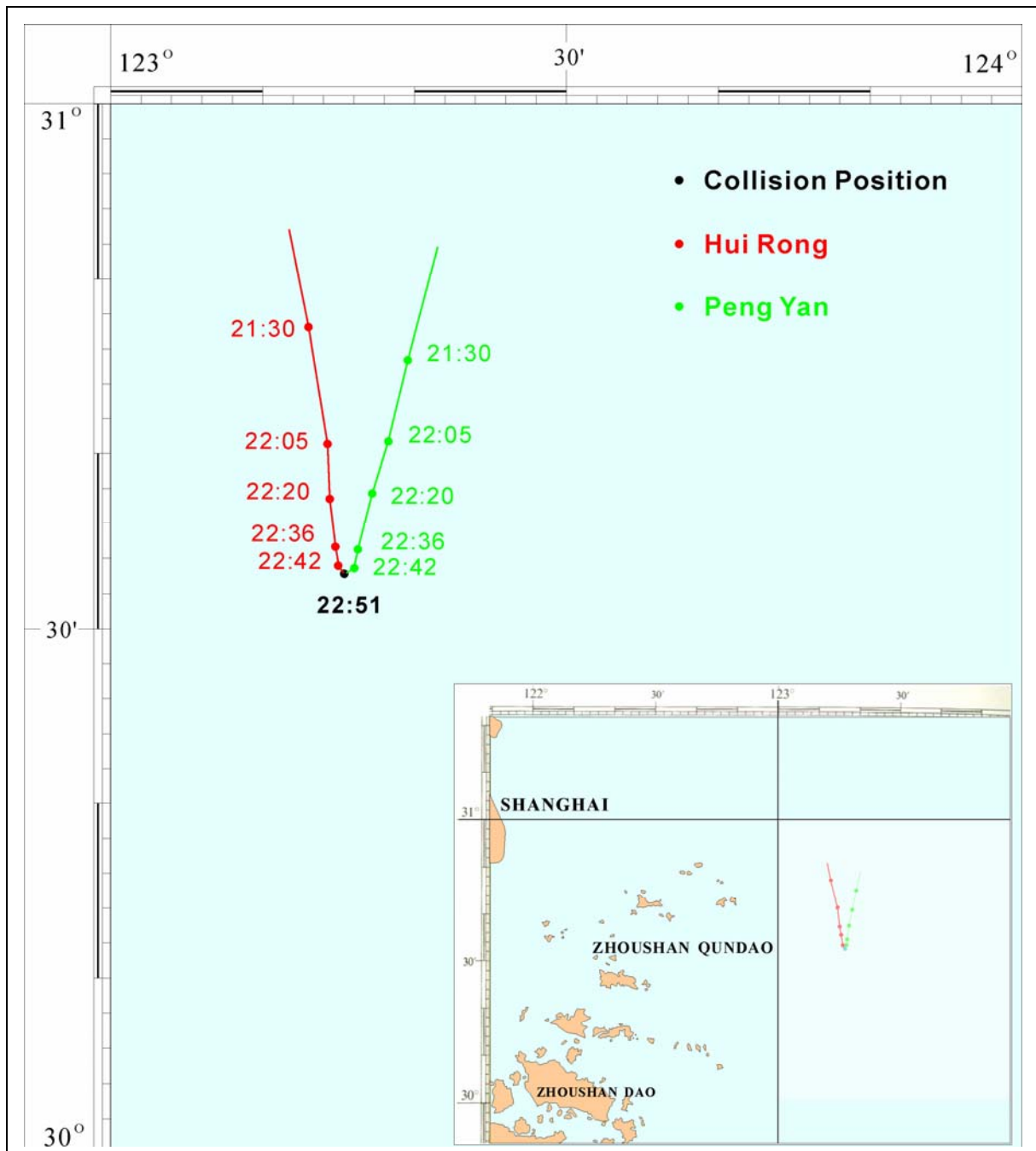


Figure 3 – Diagram showing the collision tracks of *Hui Rong* and *Peng Yan*

5. Analysis of Evidence

5.1 Competency and experience of the navigators of *Hui Rong* and *Peng Yan*

- 5.1.1 The Master of *Hui Rong* was a holder of a Certificate of Competency as Master issued by the Maritime Safety Administration of China for vessels of or over 3000 gross tons on 14 February 2006 and a Hong Kong Class 1 Foreign-going Deck Officer Licence issued on 9 May 2006. He has been serving as Master for about 10 years and he joined *Hui Rong* on 26 April 2005.

5.1.2 The Third Officer was a holder of a Certificate of Competency as Third Mate issued by the Maritime Safety Administration of China for vessels of or over 3000 gross tons on 19 February 2003 and a Hong Kong Class 3 Foreign-going Deck Officer Licence issued on 19 March 2007. He has been serving as Third Officer for about 9 months and he joined *Hui Rong* on 12 March 2007.

5.1.3 The Master of *Peng Yan* is a holder of a Certificate of Competency as Master issued by the Maritime Safety Administration of China for vessels of or over 3000 gross tons on 30 March 2006.

5.1.4 The Third Officer of *Peng Yan* is a holder of a Certificate of Competency as Third Mate issued by the Maritime Safety Administration of China for vessels of or over 3000 gross tons on 4 April 2005.

5.2 Certification of the vessels in collision

5.2.1 The statutory trading certificates of both vessels were valid and in order.

5.3 Weather conditions

5.3.1 The weather was reported to be fine with northerly wind at force 4. The current was setting southeast at the rate of about 1 knot. The sea was moderate and the visibility was about 7 n.m. The weather conditions are not considered to have any bearing on the occurrence of the accident.

5.4 Damages sustained to *Hui Rong* and *Peng Yan*

5.4.1 *Hui Rong* sustained hull damage to starboard side shell at No.3 cargo hold. The vessel sank as a result of ingress of sea water into the cargo hold.

5.4.2 *Peng Yan* sustained damages on the bow.

5.5 Actions taken by *Hui Rong*

5.5.1 According to the COLREGS, in a crossing situation and being a stand-on vessel, *Hui Rong* should maintain her course and speed and should not alter course to port when taking avoiding actions. AIS information revealed that at 2205, *Hui Rong* was on a course of 171°T with a speed of 11.6 knots. At 2236 and 2242, *Hui Rong* was on a course of 178°T with speeds of 11.7 knots and 11.8 knots. *Hui Rong* took *Peng Yan*'s advice and altered course to port at 2243 and eventually collided

with *Peng Yan* at a position 30° 32.5'N 123° 15.6'E at 2251. At the time of the collision, *Hui Rong* was turning to port while *Peng Yan* was turning to starboard.

5.6 Actions taken by *Peng Yan*

5.6.1 *Peng Yan* altered course to starboard to 196°T from 179°T at 2130 and a crossing situation developed between *Hui Rong* and *Peng Yan*. AIS information revealed that at 2205, *Peng Yan* was on a course of 196°T with a speed of 10.9 knots. At 2236 and 2242, *Peng Yan* was on a course of 194°T with a speed of 11.2 knots. At 2235 *Peng Yan* advised *Hui Rong* to alter course to port and she would alter course to starboard to keep clear of the stern of the latter vessel. *Hui Rong* took *Peng Yan's* advice and altered course to port at 2243 and *Peng Yan* made a large alteration of course to starboard at 2247. *Peng Yan* was not aware that alteration of course towards *Hui Rong* would reduce the closing distance between both vessels and subsequently the two vessels collided at 2251 while *Hui Rong* was turning to port and *Peng Yan* was turning to starboard. According to the COLREGS, *Peng Yan* being a give-way vessel should take early and substantial action to keep well clear of the other vessel. *Peng Yan* should have taken early avoiding action by either altering course to starboard to pass the stern of *Hui Rong* or slowing down, stopping or reversing her engine so that *Hui Rong* could pass ahead of it. *Peng Yan* should not advise *Hui Rong* to alter course to port to result in another close-quarters situation.

5.7 Calling the Master

Chapter VIII of the STCW Code prescribes standards in performing navigational watch. The officer in charge of the navigational watch shall notify the master immediately if the traffic conditions or the movements of other ships are causing concern. In this particular case, the Third Officers of both vessels had not notified their Masters and just took avoiding actions by themselves. Assistance could have been provided by their Masters who should have better knowledge, experience and judgment.

5.9 Fatigue, Alcohol and Drug

5.9.1 There was no evidence that fatigue, alcohol or drug were contributory factors to the collision.

5.10 Time of collision

5.10.1 It was found that the times relating to the collision such as times of alteration of course and collision recorded by *Peng Yan* were 3 minutes faster than the times indicated by AIS due to unknown reason. The times recorded by AIS were found to be correct and adopted for investigation purpose.

6. Conclusions

6.1 At about 2251 local time on 17 March 2007, the Hong Kong registered general cargo ship *Hui Rong* collided with the Chinese registered bulk carrier *Peng Yan* at approximate position 30° 32.5'N 123° 15.6'E.

6.2 At the time of the accident, the weather conditions were fine with northerly wind at force 4. The sea was moderate and the visibility was about 7 n.m.. The current was setting southeast at the rate of about 1 knot.

6.3 *Hui Rong* sank shortly after the collision. Twelve crew members of *Hui Rong* were rescued. Eight crew members were found missing and nine crew members were drowned.

6.4 *Peng Yan* sustained damages on the bow.

6.5 The investigation revealed the following probable causes of the collision:

6.5.1 *Hui Rong*, being a stand-on vessel in a crossing situation, appeared to have failed to comply with Rule 17 of the Collision Regulations (COLREGS) by taking the advice of give-way vessel *Peng Yan* and altered course to port.

6.5.2 *Peng Yan* which was a give-way vessel to *Hui Rong* appeared to have failed to comply with Rule 16 of the Collision Regulations (COLREGS) by not taking early action to keep well clear of the other vessel.

6.6 The actions taken by the Third Officers on both vessels clearly indicated that they had not observed the requirements of the COLREGS and the STCW Code as described in the analysis.

7. Recommendations

- 7.1 A copy of this report is to be sent to the owner of *Hui Rong*, the owner of *Peng Yan* and the Maritime Safety Administration of China informing them the findings of this report.
- 7.2 A Merchant Shipping Information Note (MSIN) should be issued to draw the attentions of all concerned parties to the lessons learnt in the incident.

8. Submissions

- 8.1 In the event that the conduct of any person or organization is commented in an accident investigation report, it is the policy of the Marine Department to send a copy of the draft report to that person or organization for their comments.
- 8.2 The relevant parts of the final draft of the report were sent to the following:
- Owner of *Hui Rong*
Owner, Master and Third Officer of *Peng Yan*
- 8.3 No submissions were received from the owner of *Hui Rong* and the owner, Master and Third Officer of *Peng Yan*.