



Report on the Investigation of the Collision
between
Two High Speed Passenger Craft
New Ferry 85 and Dong Qu No.1
on 19 June 2006

Guangdong MSA

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Glossary of Abbreviations and Acronyms

AIS - Automatic Identification System

Collision Regulations - International Regulations for Prevention

Collisions at Sea

GPS - Global Positioning System

HSC - High Speed Craft

IMO - International Maritime Organization

SOLAS - Safety of Life at Sea Convention

VHF - Very High Frequency

1. Summary

1.1 At about LT1012 on 19 June 2006, a Chinese registered passenger high-speed craft (HSC) Dong Qu No1 with 86 passengers on board collided with HONGKONG registered passenger high-speed craft NEW FERRY 85 at the position of 22°10'.25N/113°38'.52E adjacent to east of No.1 buoy in the channel of Jiuzhou port.

1.2 As a result, Dong Qu No.1 was hit at starboard quarter and sunk after collision. no passenger or crewmember was injured due to effective salvation. While, NEW FERRY 85 only sustained minor damage above the waterline at starboard bow and no one on board was injured.

1.3 The investigation has established that the cause of the accident is as follows:

1.3.1 NEW FERRY 85

- (a) Failure to proceed at a safe speed under the state of bad visibility.
- (b) Failure to take appropriate actions of avoiding collision with altering course to port side at the situation of Dong Qu No.1 in front of her beam while sailing in the restricted visibility area.

1.3.2 Dong Qu No.1

- (a) Failure to proceed at a safe speed under the state of bad visibility.
- (b) Negligence of lookout in the prevailing circumstances and conditions.

(c) Failure to take anti-collision actions in ample time.

1.4 As an objectivity, heavy rain made adverse affection on lookout and radar observation.

2. Particulars of Vessels

2.1 Passenger HSC Dong Qu No. 1

Port of Registry: Zhuhai ,China

Type : high-speed ferry

Length: 28.0 m

Breadth: 6.8 m

Depth: 2.8 m

Gross Tonnage : 274

Engine Power : 1880 kW

Year of Built : 1993

2.1.1 The vessel's owner and operator was Zhuhai Haitong shipping company; the address of the company was at Jiuzhou Port Building, No.428 Qinglu avenue (south), Zhuhai, China.

2.1.2 In this voyage, 6 crewmembers were on board. All crewmembers hold effective certificate of competency.

2.1.3 The vessel is high-speed passenger ferry built with aluminum alloy. Its maximum speed was 23 knots. It was equipped with two radars, a

Global Positioning System (GPS), an electronic compass, a standard compass, an echo sounder and AIS.

2.2 Passenger HSC New Ferry 85

Port of Registry:	HongKong, China
Type :	Catamaran high-speed ferry
IMO No. :	9323209
Length :	47.5 m
Breadth :	11.8 m
Depth :	3.8 m
Gross Tonnage :	695
Engine Power :	9280 KW
Year of Built :	2003

2.2.1 The owner and operator of the vessel is New World First Ferry Services Limited. The address of company is 71 Hing Wah Street West, Lai Chi Kok, Kowloon, Hong Kong.

2.2.2 In this voyage, 12 crewmembers were on board. All crewmembers hold effective certificate of competency.

2.2.3 The vessel is a high-speed passenger catamaran ferry built with aluminum alloy. Its maximum speed is 45 knots. The vessel is equipped with two radars, a Global Positioning System (GPS), an electronic chart

device, a standard compass, an echo sounder and AIS.

3. Environmental Conditions

According to the Guang Zhou Observatory, the weather on 19 June 2006 was cloudy and shower with southeast wind at Beaufort scale 3-4/5. The wave height reaches 0.7 meter. The distance of visibility was from 10 to 18 kilometers. According to investigation, when accident happened, it was shower and the visibility dropped rapidly and became poor. The flooding tide stream was at about 0.8 knot in northeast direction.

4. Narrative

4.1 New Ferry 85

At about 1000 on 19 June 2006, New Ferry 85 departed from Ferry Terminal of Macao outer port bound for Hong Kong, with 42 passengers on board.

During the voyage the Master remained the overall control of the vessel with Chief Officer, chief engineer, one cadet in the wheelhouse. The Chief Officer and cadet assisted master to keep lookout. The Chief Engineer supervised the engine running through the apparatus on the bridge.

It rained lightly at that time.

At 1007 hours, the vessel proceeded to, with course of 125 degrees, the No.1 buoy of Macao outer port channel at speed of 41 knots and. The Chief Mate found in radar that there was a south bound high speed craft 2.5 nautical miles away at own ship's port side with bearing of 045 degrees. But he did not report to the master.

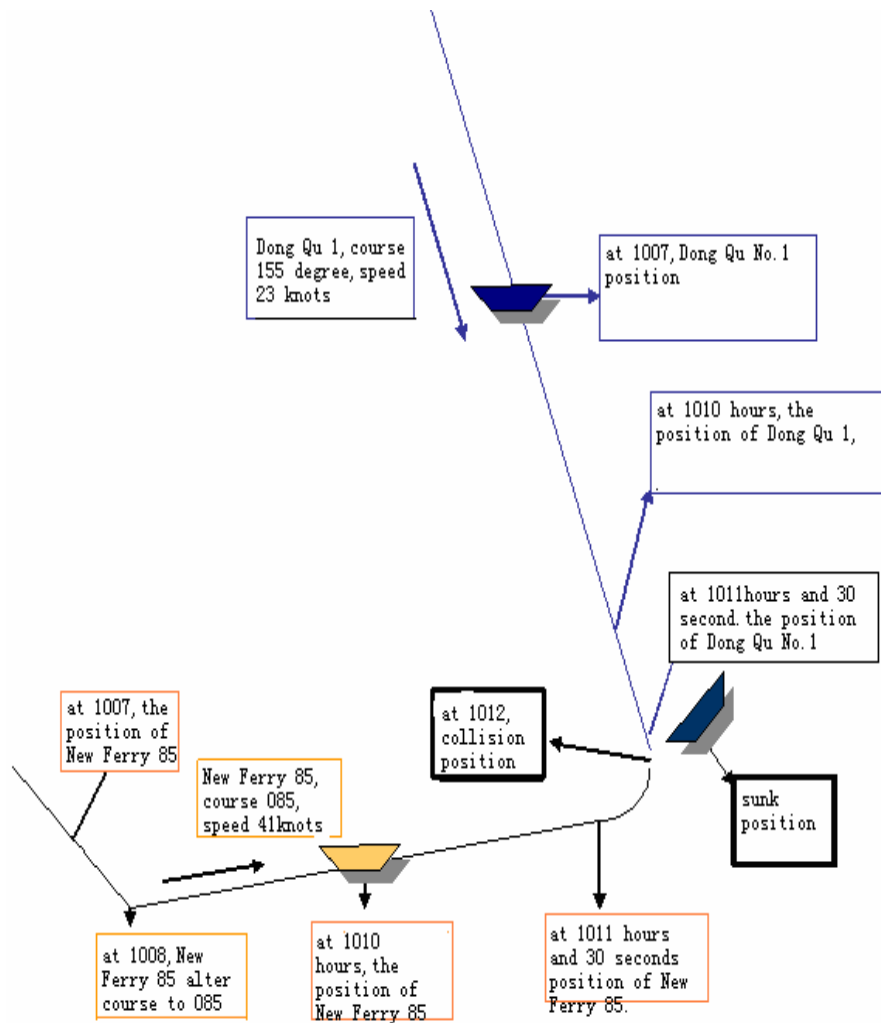
At 1008 hours, the vessel, with speed of 41 knots, arrived at the leading buoy of Macao outer port channel. The master altered course to 085 degrees for making a direct heading to Hong Kong. At that time the rain became heavily so as to the Chief Mate cannot find echo signal of the south bound high speed craft at radar. Then the Chief Mate, without reporting to the master, tried to adjust the radar gain for clearly observation.

After altering course, the master, as required by company, started broadcasting to passengers in English and Chinese for introducing the vessel, weather and sea condition, etc.

At about 1011 hours 30 seconds, the Chief Mate found in radar screen that the coming craft slow down distinctly at a distance of 0.3 nautical miles. Then he reported to master immediately for advising the risk of collision. As response, the master put down the broadcast microphone at once, and observed on radar for 5 seconds before he determined the collision risk. It was too late for him to alter course to port side and stop

engine immediate with astern engine as to avoid collision. Finally the starboard bow of New Ferry 85 collided with the starboard quarter of Dong Qu No.1 in vertical direction.

The sketch of collision between“Dong Qu No.1”and“New Ferry 85”



4.2 Dong Qu No.1

At 0945 on 19 June 2006, the vessel departed from Xiangzhou Ferry Terminal in Zhuhai city bound for Dongao Island with 86 passengers on

board.

The master, Chief Officer and chief engineer were on duty in the wheelhouse. During the voyage the Master remained the overall control of the vessel. The Chief Officer kept a lookout. The Chief Engineer supervised the engine running through the apparatus on the bridge.

At 0950 hours, the vessel passed the jetty of Xiangzhou port. At 0951 hours, the master accelerated the main engine to 1850 revolutions per minute with speed reaching 21 knots. It began to rain at that time. The visibility was decreased due to the shower.

At 1000 hours, the vessel passed No.1 and No.2 buoy in the west Channel of Jiuzhou Island. The master altered course to 155 degrees according to the navigational plan. The speed was added to 23 knots. It rained heavily at that time.

At 1010 hours, the Chief Mate reported to master that he found a high speed craft bound for Hong Kong was at a distance of 1.3 nautical miles away with bearing of 80 degrees at starboard side on radar screen. The master glanced at the distance to the craft on radar screen, then ordered the Chief Mate keep on observe the target.

When the distance reduced to 0.7 nautical miles, the master saw the silhouette of the coming craft with the bearing of 80 degree at starboard side. After seeing that the coming craft was heading to the bow of own vessel, the master estimated that that she would pass the front of own

vessel.

When the distance reduced to 0.3 nautical miles, Chief Mate reported to the master again. The master observed that the bearing of that craft was 75 degrees at starboard side. He slowed down the engine at once and then stopped the engine so as to wait the coming craft passing. After getting order from master, the Chief Mate immediately walked out of wheelhouse and detected the coming craft, from starboard side, was only at a distance of 200 meters away. That craft was closer and closer with same course and speed. When the distance between two vessels reduced to 100 meters, the master found the coming craft suddenly altered course to port side and heading to the starboard quarter of own vessel. The master instantly operated the engine to full astern. After several seconds, the collision happened.

5. Search and rescue

After collision, Dong Qu No.1 listed to port about 20 to 30 degrees after two vessels were apart. Dong Qu No.1 slowly resumed to balance. As a result of flooding into engine room, the stern of Dong Qu No.1 sunk quickly. The master of Dong Qu No.1 stopped the main engine and send out the emergency signal at once. At the same time he ordered the crewmember to prepare to abandon the vessel.

The Zhuhai MSA promptly started Emergency Rescue Plan after

receiving emergency information. After receiving the rescue instruction from MSA, a lot of vessels, including two HSC (Dong Qu No.2 and Hai Liang), 3 maritime patrol crafts (Hai Xun 151, Hai Xun 1560, Hai TE 1509) and public security crafts, fishing administrative crafts, carried out the rescue actions on scene. In order to avoid other vessel collided with the sunken vessel, Zhuhai MSA also broadcast navigational warning.

At the same time, 17 vessels from MSA, Public Security and Fishing Administrative and 15 vessels from Macao proceeded to the scene successively under the command of Zhuhai MSA. On the other hand, the crewmembers and passengers of Dong Qu No.1 took action to save themselves. The crewmembers launched down 3 life-rafts and instructed the passengers to put on the lifejacket and embark the life-rafts. After making sure no danger to own vessel, New Ferry 85 steered close to Dong Qu No.1 and transferred 57 passengers into 2 life-rafts thereinto.

Hai Xun 151, as the command vessel on scene, effectively organized the rescue action. 30 passengers and 5 crews on life-rafts were rescued to public security crafts and Dong Qu No.2.

At 1130 hours, Dong Qu No.1 sunk while all 92 passengers and crews were safe.

6. Consequences

6.1 Dong Qu No.1 sunk. She sustained total loss.

6.2 New Ferry 85

sustained slightly damage above the waterline on starboard bow. Her deck rail and life-rafts were also damaged.

7. Analysis

7.1 The time and position of collision

After collision, the time the master of Dong Qu No.1 recorded was 1010 hours as shown by the ship clock. He also recorded the position was at 22°10'.24"N, 113°38'.55"E . However the master of New Ferry 85 recorded the time was 1012 hours and the position was 22°10'.24"N, 113°39'.18"E. Basing on the course of two vessels and calculating on navigational track, the investigator ascertained the collision time was 1012 hours and position was 22°10'.25N/113°38'.52E.

7.2 The weather and visibility

According to the Guang Zhou Observatory, the weather conditions on 19 June 2006 was cloudy and shower. This was proved by both the two involved vessels with the confirmation of heavy rain before accident. The rain not only lowered the visibility but also made an adverse affection on radar observation.

7.3 safety speed

In the restricted visibility area due to heavy rain, New Ferry 85 kept full speed of 41 knots after departing from Macao port while Dong Qu No.1 speeded up from 21 knots to 23 knots at 1000 o'clock after passing No.1 and No.2 buoy in the west channel of Jiuzhou Island.

New Ferry 85 and Dong Qu No.1 both violated the Rule 6 of COLREG 1972 by keeping full speed while visibility were poor and observation by radar was affected.

7.4 Meeting situation and responsibility of avoid collision

Before collision, the course of New Ferry 85 was 085 degrees while speed was 41 knots. The course of Dong Qu No.1 was 155 degrees while speed was 23 knots. At 1008 hours, the distance between two vessels was 2.4 nautical miles. Dong Qu No.1 was at the bearing of 40 degrees on the starboard side of New Ferry 85. Because the visibility was poor, the

Action to avoid collision of both sides should comply with the Rule 19 of Collision Regulations about Conduct of vessels in restricted visibility. Both sides had the responsibility to take action to avoid collision.

7.5 Look out

7.5.1 New Ferry 85

The vessel did not keep a proper lookout. Firstly, Chief Mate did not report to the master when he found the other vessel by radar. The master did not detect the other vessel. Secondly, Chief Mate still did not report to master when he could not observe the other vessel on radar screen due to being affected by heavily rain after alteration. The master did not know there was a HSC ahead. Thirdly, when the visibility was poor and radar observation affected by heavy rain, the master did not keep a proper lookout while broadcasting to passengers according to company procedure. Lastly, the master did not notice that own route crossed with the channel of Jiuzhou port and route of HSC from Xiangzhou port to Dongao Island.

The Rule 5 of Collision Regulations stipulated that every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision. The Rule 2 stipulated that nothing in these Rules shall

exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

The master of New Ferry 85 did know the exist of the other vessel until the other vessel was at a distance of 0.3 nautical miles. He did not keep a proper lookout and violated the Rule 5 of Collision Regulations. The master did not notice the crossing of route and neglected of precaution that may be required by the ordinary practice of seamen, so he violated the rule 2.

7.5.2 Dong Qu No.1

The vessel did not keep a proper look-out either. Firstly, at 1010 hours, the master just glanced at the distance to the craft on radar screen when he knew there was a HSC at a distance of 1.3 nautical miles on starboard side. He failed to observe and plot on radar screen seriously. Secondly, when two vessels were at a distance of 0.7 nautical miles, the master saw the other vessel was heading to the bow of own vessel and estimated that that craft would pass the front of own vessel. In fact, the two vessels existed risk of collision.

The master did not keep proper look-out and failed to take a full appraisal of the situation and of the risk of collision. He also violated the Rule 5.

7.6 Action Taken to Avert Collision

7.6.1 New Ferry 85

After estimating that there was a risk of collision, the master observed about several seconds and altered course to port, stopped engine, even asterned engine before collision. According to calculate on the angle of collision and the course of two vessels, the vessel had altered course to port about 20 degrees.

The paragraph 5 of Rule 8 stipulated that if necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion. The paragraph 4 of rule 19 stipulated that a vessel should avoided an alteration of course to port for a vessel forward of the beam.

The master took action while observe about several seconds. He had no more time to assess the situation and violated the paragraph 5 of Rule 8. The master had altered course to port to avoid collision and violated the paragraph 4 of rule 19.

7.6.2 Dong Qu No.1

When the master observed the other vessel at a distance of 1.3 nautical miles, he did not take any actions until the distance of two vessels was 0.3 nautical miles.

The paragraph 1 of Rule 8 stipulated that any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made

in ample time and with due regard to the observance of good seamanship. The master did not take action to avoid collision in ample time and violated the paragraph 1 of Rule 8.

7.7 Bridge team management

The Chief Mate had not report to master when he first sight the other vessel. He also had not report to master either when he could not detect the target by radar affected by heavy rain. It indicated that communication between the crew overall controlling the vessel and the crew assisting to keep look-out was poor on this vessel.

The master as the person taking charge of navigating did not keep a proper look-out while broadcasting to passengers according to the procedure of company. He neglected the safety of navigation.

7.8 The usage of VHF and sound signal

Before collision, both sides did not use VHF and sound signal to warn the each other. Both violated paragraph 4 of rule 34.

7.9 The usage of radar

The master just glanced at the distance to the craft on radar screen when he observed the other vessel by radar. He failed to observe and plot on radar screen seriously.

The paragraph 2 of rule 7 stipulated that 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.

The master failed to observe and plot on radar screen seriously and violated the paragraph 2 of rule 7.

7.10 the accident report by New Ferry 85

New Ferry 85 did not report to Zhuhai MSA after accident happened. The document of ISM system on New Ferry 85 did not list the procedure of report to MSA while the accident is happening.

The Rule 36 of MARITIME TRAFFIC SAFETY LAW OF THE PEOPLE'S REPUBLIC OF CHINA stipulated that when vessels or installations in the vicinity of the scene of an accident receive a distress signal or discover that people's lives are endangered, they shall do their best to rescue the people in distress insofar as their own safety is not seriously endangered, and promptly report to the competent authorities the situation at the scene, their own names, call numbers and positions.

New Ferry 85 did not report to the competent authorities (Zhuhai MSA) while he was finding the lives of the persons on board Dong Qu No.1 are endangered, so as to violate the Rule 36 of MARITIME TRAFFIC SAFETY LAW.

8. Conclusions

The following contributing factors are identified:

8.1 New Ferry 85

7.1.1 The master kept full speed in the condition that visibility were poor and observation by radar was affected.

7.1.2 The master altered course to port to avoid collision.

7.1.3 The master did not keep proper look-out.

7.1.4 The master took action while observe about several seconds. He had not more time to assess the situation.

7.1.5 The master did not notice the crossing of route and neglected of precaution which may be required by the ordinary practice of seamen

7.1.6 The communication between the crew overall controlling the vessel and the crew assisting to keep look-out was not good.

7.1.7 the master neglected the safety of navigation; he did not concentrate to keep a proper lookout while broadcasting to passengers.

7.1.8 Before collision, the vesssel did not use VHF and sound signal to warn the other.

8.2 Dong Qu No.1

7.2.1 The master kept full speed in the condition that visibility were poor and observation by radar was affected.

7.2.1 The master did not keep proper look-out and failed to ake a full appraisal of the situation and of the risk of collision.

7.2.3 The master did not take action to avoid collision in ample time.

7.2.4 The master failed to observe and plot on radar screen seriously.

7.2.5 Before collision, the vessel did not use VHF and sound signal to warn the other.