

附件 4



The Safety Investigation Report into the Collision Between
MV Xin Zhang Zhou and ***Liao Wa Yu 75060***
on Feb 27th, 2011

Maritime Safety Administration, P.R.China

www.msa.gov.cn

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Glossary of Abbreviation and Acronyms

IMO: International Maritime Organization

S-VDR: Simplified Voyage Data Recorder

DOC: Document of Compliance

SMC: Safety Management Certificate

VHF: Very High Frequency

VTS: Vessel Traffic Service

AIS: Automatic Identification System

CCS: China Classification Society

TEU: Twenty-foot Equivalent Unit

A/C: Anti-clutter

MSA: Maritime Safety Administration

1. Summary of the accident

At about 1258LT on Feb 27th 2011,China flagged vessel M/V Xin Zhang Zhou on her way from Bayuquan Port to Jiangyin Port, China collided with a Chinese fishing boat Liao Wa Yu 75060 during its anchorage due to the machine failure in the position of 38°28'N, 121°02'E. It caused the fishing boat sunk, all crew members were rescued.

2.Evidence

On 28 July, 2012, investigators from the China MSA boarded on the MV Xin Zhang Zhou to collect relevant evidence. The masters and watch officers of MV Xin Zhang Zhou and the fishing vessel were interviewed and copies of relevant documents including the vessel's statutory certificates and log book entries were obtained. Digital data of S-VDR from MV Xin Zhang Zhou was collected and replayed.

3. Factual information

3.1 M/V Xin Zhang Zhou

Nationality: CHINA

Registration port: Shanghai

Call sign: BPNF

IMO Number: 9328601

Length of all: 263.23 meters

Beam: 32.20 meters

Depth: 19.30 meters

Gross tonnage: 41481

Net tonnage: 24001

Dead weight tonnage: 55215.6 tons

Type: Container vessel

Built time: November 18th, 2008

Built place: DaLian Ship building Industry Co.Ltd.

DOC: This DOC issued by China MSA on Oct. 10th 2009, valid until Nov. 22th 2014. DOC number is 05A019.

SMC: This SMC issued by CCS on Apr. 10th 2009, valid until Apr. 9th 2014.

Owner: China Shipping Container Lines Co., Ltd

Operator: China Shipping Container Lines Co., Ltd

Owner/Operator Add: Room A-538, YangShan International Trade Center, NO.188 YeSheng Road, YangShan Free Trade Port Area, ShangHai, CHINA.

23 crew members were manned on board. They all had valid certificates of competency in compliance with the Minimum Safe Manning Certificate. All crews are Chinese.

Captain was borne on Dec 5th 1967, embarked on board on Aug 25th 2010. He was in his cabin when accident occurred.

Second officer was borne on Nov 16th 1982, embarked on board on Feb 15th 2011. He was on duty in bridge when accident occurred.

Duty AB was borne on Jul 4th 1984, embarked on board on Aug 25th 2010. He was in charge of wheel when accident occurred.

3.2 Liao Wa Yu 75060

Nationality: CHINA

Registration port: DaLian

Length of all: 21.10 meters

Beam: 5.10 meters

Depth: 1.77 meters

Gross tonnage: 41

Net tonnage: 14

Type: Fishing boat

Radiotelephone: 90-C 25W

Main engine type/power: 6135ACa/94.1kw

Built time: Mar 15th, 1997

Built place: Da Lian.

Ship's safty certificate was issued by Register of Fishing Vessel of the people' Republic of China. Sailing area is limited within Coastal navigation area.

8 crew members were manned on board in this voyage. Captain was 41 years old who came form a village of Liaoning province.

4. Weather condition and navigation environment

According to the entries of log book on M/V Xin Zhang Zhou, weather and sea condition at the time of accident was NE wind force 7-8, sea wave level 3-5m. Accident occurred at the end of eastbound traffic lane of Laotieshan traffic separating scheme. All large gross tonnage vessels transit the ports around Bohai bay from the Yellow Sea will pass through the Laotieshan channel where the collision occurred. Some data show in 2010 there were more than 70 thousand of merchant vessels passed through the Laotieshan Channel. The channel features not only high density of traffic, but also bad weather and sea condition with strong gale, high sea wave, torrent and dense fog.

5. Narrative of the collision

The description is based on the interviews to the related crew members and S-VDR digital data of M/V Xin Zhang Zhou.

5.1 M/V Xin Zhang Zhou

About 0330LT on February 27, 2011, M/V Xin Zhang Zhou loaded with 47409 tons cargo (2239TEU) on board, departed from Bayuquan port of Yingkou, China. The fore draft was 12.8 meters, aft draft was 12.8 meters.

About 0330LT, M/V Xin Zhang Zhou arrived at the NO.16 light-buoy, and the pilot was debarkation.

At 0505LT, the ship position was 40°14'.4N/121°46'.7E, sailing with a fixed

speed and automatic pilot, course 252 °, according to the voyage plan and the captain left bridge to his cabin .

At 1030LT, the captain went on bridge, ship position indicated on the radar was true bearing 115 °, distance of 10.3 nautical mile from *She Island*.

At 1055 LT when M/V Xin Zhang Zhou approached to the Laotieshan reporting line, the captain reported the vessel's navigation information to Dalian VTS via VHF10.

At 1215LT, the ship position was 38°34'.7N/120°50'.9E, turned course to 119°, the speed was 17 knots。

About 1240LT, the captain left bridge and went back to his cabin.

About 1256LT, ship position was 38°28'.6N/121°02'.5E, the duty officer found a fishing boat heading north on starboard bearing 10°and distance of 0.5 nautical mile, then sounded a long whistle and made a hard starboard turn to avoid collision immediately.

About 1258 LT, M/V Xin Zhang Zhou collided with Liao Wa Yu 75060, on the position of 38°28'.0N/121°03'.6E.

5.2 Fishing boat Liao Wa Yu 75060

At 1400LT on February 22, 2011, the fishing boat Liao Wa Yu 75060 departed from the fishing port of Dalian Tiger beach to the fishing area around Beichenghuang Island for fishing.

At 1800LT on February 26, Liao Wa Yu 75060 sailed for Dalian after the fishing work.

At 1900LT, main engine of Liao Wa Yu 75060 was out of service and anchored on position 38°28'.0N/121°03'.0E.

At 1258LT on February 27, Liao Wa Yu 75060 collided with M/V Xin Zhang Zhou.

6. Search and Rescue

After collision, M/V Xin Zhang Zhou immediately stood by engine, slowdown and stop, raised alarm for rescue to the vessel. At the same time she made a hard STBD to the windward of the fishing boat to rescue the fishing boat crew.

At 1305LT, she stood 150 meters away from the fishing boat, the starboard lifeboat on board was launched.

At 1325LT, the lifeboat approached the fishing boat, it was too difficult for the lifeboat to approach the fishers because of the heavy sea. Then, M/V Xin Zhang Zhou approached to the fishing boat by degrees, the fishing boat launched her life raft and crew boarded the life raft. M/V Xin Zhang Zhou threw a rope to the life raft, pulled the life raft to her pilot ladder area, 8 fishermen boarded M/V Xin Zhang Zhou via the pilot ladder. Immediately, the crew tried to recover the life boat. However the hook knocked and deformed when hooking the life boat due to the great waves so that the life boat failed to be recovered. Lifeboat propeller and rudder were tangled by broken rope, and then lost power.

The lifeboat crew members were brought on the ship. The crew members

fastened the lifeboat to the vessel and tried to pull it to Yantai. But the lifeboat got lost on the way due to the breaking down of the rope.

7. Damages and loss

The Liao Wa Yu 75060 sank after it broken into two pieces. M/V Xin Zhang Zhou lost a lifeboat during the rescue operation.

8. Unsafe acts

Analysis of the accident is mainly based on the interviews to the crew members, AIS and S-VDR digital data and VTS monitoring record.

8.1 M/V Xin Zhang Zhou

8.1.1 Failure of keeping proper lookout.

The second officer of M/V Xin Zhang Zhou did not detect the fishing boat in time when the vessel arrived at the end of eastbound traffic of Laotieshan traffic separating scheme until the distance between them is 0.5 nautical miles. The evidence suggests that the watch officer did not keep a proper look-out as per the navigational environment including using radar effectively, observing frequently with the binoculars and searching targets in wave troughs.

8.1.2 Did not make a full risk appraisal of the situation before the collision.

After visually observing the fishing boat, the second officer assumed it was crossing ahead of his own ship without verifying the following situation of the

boat carefully and whether the boat was making way through the water after the alternation.

8.1.3 Improper measures to avoid collision.

Based on the insufficient information, the watch officer took the improper measures that initiate the new immediate danger. In addition, the ship did not corrected measures including take ample and positive alternation which is the direct cause of the collision.

8.2 Fishing boat Liao Wa Yu 75060

The fishing boat Liao Wa Yu 75060 did not exhibit the anchorage lights and shapes during anchoring according to the provision of *International Regulations for Preventing Collision at Sea, 1972*, which gave other vessels wrong impression that she was in navigation.

9. Analysis

9.1 The factors affecting look-out

9.1.1 Complacence

The watch officer on M/V Xin Zhang Zhou did not keep high alertness in that he thought there were no fishing boats and not many navigating merchant ships around the channel because of heavy weather.

9.1.2 Informal seamanship.

When the visibility was good, the officer on watch only searched for target by sight, and the habit of his lookout ignored the possible existence of small

fishing boats or the target hidden by sea wave. At the same time, the officer on watch did not adjust the radar A/C sea function properly. So the above informal seamanship caused the improper lookout.

9.1.3 heavy weather and rough sea conditions.

The small fishing boats were difficult to be detected because of the heavy weather conditions. Especially those small wooden fishing boats were comparatively difficult to be distinguished from the waves.

9.1.4 The fishing boats didn't exhibit any anchoring signal.

The fishing boats shall hang a ball shape where it can be best seen during anchoring to remind the large ships passing by. When the vessel was sailing nearby, the manner that the watch officer on boat just knocked the washbasin to warn the approaching vessel was helpless to lookout of the ship.

9.2 Factors affecting the judgment of the vessel

9.2.1 Discovered the boat in short distance.

There is no enough time for a vessel sailing at speed of 17 knots to distinguish when it discovered the boat in only 0.5 nautical mile.

9.2.2 Vessel sailing at unsafe speed.

It only took around 100 seconds to sail 0.5 nautical mile for the vessel sailing at 17 knots, so that the officer on watch felt the boat was approaching fast which made great pressure on him.

9.2.3 The weather factors caused misjudgment of the fishing boat.

Affected by the wind and wave, the anchored fishing boat was heading north which made the misconception of crossing ahead of large vessel. Furthermore, it was difficult to judge the discharge currents of the fishing boat's propeller in waves

9.2.4 The fishing boat Liao Wa Yu 75060 did not exhibit the anchoring shape, which misled the officer of M/V Xin Zhang Zhou. The watch officer regarded the fishing vessel is on navigation.

9.3 Factors affecting improper action to avoid a collision

When the duty officer found the fishing boat in short distance, his first reaction was whistled a long horn, which shouldn't be used so closely because it was helpless to change the opposite's purpose judging by the good seamanship. And they lost time for collision avoidance. Failing to judge the boat's statement by telescope in seconds proved that the duty officer was lack of experience.

In case of emergency, the officer on watch of M/V Xin Zhang Zhou forgot or he did not even know the turning ability at full sea speed and hard rudder, and he did not take any measures, such as slowing down, stopping engine or reversing propulsion. Even if the bow of the ship avoided the fishing boat, the transverse drift and its waves generated may still make the small fishing boat capsized. So the officer was lack of the vessel manipulation in emergency.

10. Problems detected in the investigation

10.1 Safety management system was not be implemented effectively.

The safety management system of M/V Xin Zhang Zhou requires that the captain should monitor on bridge or personally command when the vessel sails in narrow channel. The navigation in narrow channel, the rudder should be steered manually, and a sailor should be designated to assist the duty officer for lookout. At the time of the accident, the captain of the ship was not on the bridge in accordance with the requirements and no additional staff to assist lookout.

10.2 The improper use of lifeboat in heavy sea.

Using life boat to rescue, after the collision between M/V Xin Zhang Zhou and fishing boat Liao Wa Yu 75060, without considering the weather conditons was appropriate or not. The lift boat failed the rescue mission and could not be reclaimed.

10.3 The problem of fishing crew training and certification.

According to the record of the crew of fishing boat Liao Wa Yu 75060, they did not know the anchor ball should be exhibit when anchoring, the crew obtained the certificate without proper training qualification. Some of them had not been properly literate, or even not known the meaning of certificate.

11. Safety Recommendations

11.1 China Shipping Container Lines Company Limited should pay more attention to remind all of its belonging vessels, strengthen manipulation and emergence response training, especially proper look-out when sailing along coastal waters. At the same time, lifesaving training of seamen should also be enhanced to master the lifesaving procedures in bad weather.

The company should take effective measures to monitor the execution of safety management system, so as to ensure that system documents to be effectively implemented and correct the violation behaviors on board.

11.2 Fishery management authority should strengthen fishing crew's training and certification management to prevent unqualified fishermen to engage in maritime safety operations so as to reduce the unsafe factors.