Report of investigation into the collision between the Hong Kong registered container vessel *"Shin Chun"* and a Taiwanese fishing vessel at waters close to Kaohsiung, Taiwan on 29 February 2016

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

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Purpose of Investigation

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 enhancing the safety of life at sea and avoiding similar incident in future.

It is 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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Summary

A fatal collision occurred between the Hong Kong registered container vessel "*Shin Chun*" (*the vessel*) and the Taiwanese fishing vessel "*Chao Fa No.3* (*朝發3號*)" (*the fishing vessel*) in the vicinity of Kaohsiung port, Taiwan on 29 February 2016.

At 1218 hours on 28 February 2016, *the vessel* departed from Fuzhou, China with general cargo in containers to Kaohsiung, Taiwan.

At 0450 hours on 29 February 2016, *the vessel* arrived at the first reporting point which was 20 nautical miles (n.ms) from Kaohsiung port, and entered the Kaohsiung Vessel Traffic System (VTS) covering area. At the time of arrival, the duty bridge team of *the vessel* comprised the third officer (3/O) as the duty officer, the assistant third officer (A3/O) and one duty able-bodied seaman (AB). The A3/O reported *the vessel*'s position and Estimated Time of Arrival (ETA) of 0630 hours to the VTS. At 0524 hours, when *the vessel* was at position 22°45.3'N, 120°07.3'E which was about 12 n.ms to the northern breakwater of Kaohsiung, A3/O reported again to the VTS of *the vessel*'s position and asked for the assignment of anchoring position. The VTS assigned *the vessel* to anchor in the No.2 anchorage area of Kaohsiung (22°36.3'N, 120°14.6'E).

At about 0532 hours, *the vessel* on a course of 164° and at a speed of 15.3 knots collided with *the fishing vessel* which was manned by 2 fishermen at position 22°43.4'N, 120°07.9'E. After the collision, *the fishing vessel* turned upside down. Her coxswain was trapped inside the wheelhouse and was drowned. Another fisherman fell into the sea and was missing.

The investigation revealed that the main contributory factors of the accident were as follows:

a) both *the vessel* and *the fishing vessel* failed to comply with Rule 5 (Look-out) of the International Regulations for Preventing Collisions at Sea 1972 (COLREGS) by not maintaining proper look-out. The target echo of *the fishing vessel* appeared on the radar of *the vessel* at a distance of more than 6 n.ms, but the duty officer failed to utilize the radar to plot or check the target in order to determine the risk of collision;

b) *the fishing vessel*, being a give-way vessel to *the vessel*, failed to comply with Rule 16 (action by give-way vessel) of the COLREGS by not taking any action to keep well clear of *the vessel*; and

c) *the vessel*, being the stand-on vessel in a crossing situation, failed to comply with Rule 17 (action by stand-on vessel) of the COLREGS to keep her course and speed, or take action as will best aid to avoid collision.

The investigation also found the following safety factors:

a) before the collision, *the vessel* proceeded with a cruising speed of about 15 knots under the command of a junior officer in a port approaching area of high traffic density without making her main engine ready for maneuvering. The bridge team members did not follow the requirements of the shipboard safety management manual relating to the "*Check List for Navigation in High-Density Traffic Areas*" and "*Arrival and Departure Check List for Bridge*" to: -

   (i) make the engine ready for maneuvering; and

   (ii) record the time and position of the commencement and the termination of this navigation in high-density traffic area in the log book.

b) the voyage plan was not prepared or executed properly. The duty officer checked all the boxes of the checklist in which some items were irrelevant to the current voyage and some checked items had in fact not been performed.

c) the bridge resource management and teamwork on bridge of *the vessel* was weak and ineffective.

1. Description of the vessels

1.1 *the vessel* (Figure 1)

Ship name	:	***Shin Chun***
Flag	:	Hong Kong, China
Port of registry	:	Hong Kong
IMO number	:	8611790
Type	:	Container carrier
Year built, shipyard	:	1986, Naikai Zosen Corporation.
Gross tonnage	:	9,965
Net tonnage	:	4,776
Summer deadweight	:	14,263 tonnes
Length overall	:	151.60 metres
Breadth	:	23.50 metres
Engine power, type	:	6311 kW, HITACHI ZOSEN-MAN B&W 7L50MC
Classification society	:	Nippon Kaiji Kyokai
Registered owner	:	Wan Hai Lines Ltd
Management company	:	Wan Hai Lines Ltd

Figure 1- *the vessel*

1.2 *the fishing vessel* (Figure 2)

Ship name	:	***Chao Fa No.3 (朝發 3 號)***
Flag	:	Taiwan
Port of registry	:	Kaohsiung
Type	:	Fishing vessel
Material of hull	:	Wood
Gross tonnage	:	18.1
Registered owner	:	Tsai Chao-Chih

Figure 2 - *the fishing vessel* on the pontoon

2. Sources of evidence

a) The statements of the master, officers and crew of *the vessel*.

b) Information provided by the ship management company of *the vessel*.

3. Outline of events

(All times were local time GMT + 8 hours)

Account of *the vessel*

3.1 At 1218 hours on 28 February 2016, *the vessel* sailed from Fuzhou, China with 4903 metric tonnes of general cargo in containers to Kaohsiung, Taiwan. *The vessel* had 21 crew comprising 3 Indonesia deck hands and 18 Chinese nationals including the master.

3.2 The 3/O was on the navigational watch from 0400 to 0800 hours with the support of an AB in the early morning on 29 February 2019. The A3/O was also on duty for training purpose. They took over the watch from the second officer (2/O) at about 0400 hours. *The vessel* was sailing on a course of 152° with a speed of about 15 knots on her planned route. According to the Voyage Data Recorder (VDR) information, the No.1 radar was in operation as well as the Automatic Identification System (AIS) and Very High Frequency (VHF) radios.

3.3 At about 0450 hours, *the vessel* arrived at position 22°53.2'N, 119°57.9'E, which was about 20 n.ms to her destination at the port of Kaohsiung. The A3/O reported her position and ETA of 0630 hours to the VTS in accordance with the requirements of local regulations. The VTS confirmed the receipt of the information and requested *the vessel* to report again later upon arrival at a position of 12 n.ms to Kaohsiung.

3.4 At about 0515 hours, *the vessel* was at position 22°47.6'N, 120°06.4'E, maintaining her planned course of 152° with a speed of about 14.9 knots. The No.1 radar indicated several ships' echoes on her port side forward. One of those echoes was plotted as target No.61 at a distance about 4.06 n.ms and a bearing of 135.6° proceeding on a west bound course of 281° at a speed of about 9 knots. Following target No.61, a small echo (confirmed to be *the fishing vessel* later) was also displayed on the screen at a further distance. *The fishing vessel* was not plotted by the duty officer and therefore, its bearing and distance were not indicated on the radar screen. (Figure 3)

3.5 At about 0520 hours *the vessel* was at position 22°46.5'N, 120°06.9'E and altered course to starboard to 162° with a speed of 14.9 knots. Target No.61 was on the port bow of *the vessel* at a bearing of 135° and a distance of 2.4 n.ms. The movement of target No.61 was steady. On the radar screen, the plotting data of target No.61 indicated the Closest Point of Approach (CPA) as 0.09 n.m and Time of Closest Point of Approach (TCPA) as 7.13 minutes. *The fishing vessel* on the radar screen maintained the same trend, and no significant change on its relative position from target No.61. As the 3/O stated, when *the fishing vessel* on the radar was at about 4 n.ms away and a bearing of about 139°, he saw a weak light of *the fishing vessel* firstly by sight. (Figure 4)

3.6 At 0524 hours, *the vessel* was at position 22°45.3'N, 120°07.3'E with a speed of 15.2 knots.

In order to give more room for target No.61 to pass on her port side, *the vessel* altered course to starboard to 165°. Meanwhile, it was the second reporting point of about 12 n.ms to the northern breakwater of Kaohsiung. The A3/O reported to the VTS of her position and asked for the assignment of anchoring position. The VTS confirmed the report and assigned *the vessel* to anchor in the No.2 anchorage area of Kaohsiung (22°36.3'N, 120°14.6'E).

3.7 At about 0526 hours, *the vessel* maintained her course of 165°. Target No.61 was at a distance about 0.79 n.m on bearing 119°. The CPA and TCPA were 0.29 n.m and 2.2 minutes respectively. *The fishing vessel* was on the same bearing at a distance about 2.3 n.ms from *the vessel*. At 0528 hours, after target No.61 passed on *the vessel*'s port side, the 3/O altered course back to port side on a course of 155° in order to resume the planned route.

3.8 At 0530 hours, *the vessel* was at position 22°44.0'N, 120°07.7'E, and proceeding on a course of 155° with a speed of 15.1 knots. Target No.61 passed *the vessel* at a distance of 1 n.m away on bearing of 336°. As the duty officer did not plot *the fishing vessel* by the radar, the accurate information on its distance, bearing, CPA and TCPA were not displayed on the radar screen. By comparison with the position of target No.61, *the fishing vessel* was estimated on the port bow of *the vessel* with a relative bearing of 10° on the port side, and at a distance of about 0.8 n.m. (Figure 5)

3.9 At 0531 hours, *the fishing vessel* was approaching too close to the port bow of *the vessel* at an estimated distance of 0.5 n.m. About 45 seconds later (i.e. 053145 hours), a voice was recorded by *the vessel*'s VDR that the 3/O talked to himself in Chinese "漁船(要)幹什麼?" (in English, "what does *the fishing vessel* intend to do?"). Then it was silent again on the bridge. The 3/O stated that after observing an imminent risk of collision with *the fishing vessel* in crossing, he altered course to starboard to 161°. (Figure 6)

3.10 At 0532 hours, *the vessel* continued to alter course to 170° at a speed of 15.1 knots. *The fishing vessel* on radar screen was almost right ahead of *the vessel* at a distance of about 0.23 n.m. At 053209 hours, the 3/O found that *the fishing vessel* was still crossing ahead of *the vessel*. He ordered to change to hand steering and put hard starboard on the rudder. At about 053223 hours, the record of VDR indicated a weak noise of collision. It occurred at position 22°43.4'N, 120° 07.9'E. The heading of the vessel was on 175° with a speed of 15.2 knots. (Figure 7). The duty AB stated that the collision occurred less than one minute after the rudder order of hard starboard was given, and the A3/O stated also that a vibration was felt when the collision occurred.

3.11 The 3/O stated that after the collision, he asked the A3/O to call master to the bridge. He then went to the starboard bridge wing to check *the fishing vessel*.

3.12 At 0533 hours, *the vessel* was at position 22°43.3'N, 120°08.0'E continuing to alter course to 204° and her speed dropped to 12.7 knots. A high turning rate was achieved by putting the

rudder to hard starboard. The echo of *the fishing vessel* disappeared on the radar screen (Figure 8).

3.13 The master came on the bridge before the A3/O called him as he noted the abnormal noise and vibration caused by the collision. The voice recorded by the VDR indicated that, at 053345 hours, the 3/O made first call to VTS via VHF radio communication. The master ordered the A3/O to inform the chief officer (C/O) and all other crew to stand by. Then, the VHF radio communication between VTS and *the vessel* was established and the master reported to VTS that a collision might have occurred between *the vessel* and a fishing vessel. Immediate assistance from the VTS was requested to notify fishing vessels in the vicinity to carry out search and rescue (SAR) operation. *The vessel* continued to alter course to 225° at a speed of 13.4 knots. After reported to VTS, the master took command of *the vessel*. The A3/O was instructed to inform duty engineer to put the main engine ready for maneuvering.

3.14 At about 0537 hours, *the vessel* was steady on a course of 340°. No radar echo of *the fishing vessel* was displayed on the radar screen. At 0538 hours, the master confirmed with VTS that a collision had occurred and nothing was found when they immediately returned to search along the track of *the vessel*. Meanwhile, the 3/O announced emergency situation to all crew via ship's public address system. No general emergency alarm was raised.

3.15 At about 0539 hours, the VDR recorded that the main engine telegraph's ringing sound. It was believed that the main engine was ready for maneuvering at that time. Then the 3/O announced again via public address system that all stations standby for SAR operation.

3.16 At 0546 hours, the master ordered "*hard to port*" to circle around the area for searching, and instructed the 2/O and the C/O to take walkie-talkie for communication while conducting search on the sea surface from both sides of *the vessel*. He then ordered to steady *the vessel* on a course of 031°. All deck lights were switched on for the SAR.

3.17 At 0549 hours, the master reported to VTS again that no trace of *the fishing vessel* was spotted. At 0550 hours the incident was reported to the company, and the main engine was slowed down.

3.18 At about 0620 hours, *the fishing vessel* was found floating upside down on the sea surface (Figure 9). Fishing vessels in the vicinity were contacted and requested to assist in searching the area for man overboard. *The vessel* also continued the SAR in the vicinity.

3.19 At 0725 hours, the local Coast Guard vessels arrived on scene and joined the SAR operation. The capsized fishing vessel was confirmed to be *the fishing vessel* knowingly with 2 persons including a local coxswain who was also the shipowner and an Indonesian fisherman onboard. Underwater search was conducted for the submerged part of the capsized *fishing vessel*, but the missing coxswain and fisherman could not be found.

3.20 The SAR operation by *the vessel* was continued until about 1750 hours on 29 February 2016 and no survivors were detected. At about 0600 hours on 1 March 2016, *the vessel* resumed her voyage and proceeded to Kaohsiung. At about 1000 hours, *the vessel* berthed at a wharf of Kaohsiung. An inspection was conducted by the crew after alongside with the findings of a scratch damage and slight dent on her bulbous bow starboard hull plating. The seaworthiness of *the vessel* was not affected.

Account of *the fishing vessel*

3.21 As *the fishing vessel*'s coxswain and the fisherman were drowned and missing respectively at the accident, no information was available for establishing the movement of *the fishing vessel*.

3.22 In the morning on 1 March 2016, *the fishing vessel* was towed back to the Kaohsiung port and was placed at upright position on a pontoon. The body of the coxswain was found in her wheelhouse. The SAR for the missing Indonesian fisherman continued without success and stopped on 3 March 2016. A local fishing vessel was then deployed to search the area from 3 to 9 March 2016 but without any finding. For the following two months, the search and look-out were maintained by vessels operating around the sea area for the missing fisherman but in vain.

4. Analysis

Manning of *the vessel* and working experience

4.1 *The vessel* was manned by a crew of 21 including the master from China and Indonesia. Among them, there were six deck officers including the master, C/O, 2/O, two 3/Os and one A3/O. There were five engineers including the chief engineer, second engineer, third engineer and two forth engineers. The master, deck and engineer officers held valid certificate of competency corresponding to their respective positions. The manning of *the vessel* met the requirement of the Minimum Safe Manning Certificate.

4.2 The master of *the vessel* had served as a master and for this management company for more than seven years and joined *the vessel* on 9 September 2015.

4.3 The 3/O had served as a third officer for more than two years and joined *the vessel* on 5 August 2015. He had served for this management company for more than three years since being a deck cadet.

4.4 The A3/O had served as an assistant third officer for about one year and joined *the vessel* as his second ship on 7 January 2016.

4.5 The duty AB was from Indonesia. The record indicated that he had served as an able-bodied seaman since 2011. He joined *the vessel* on 19 June 2015.

4.6 The experience of the master and the bridge team was considered sufficient.

Manning of *the fishing vessel* and working experience

4.7 No information was available for either the manning requirement or the qualification of the coxswain and the fisherman of *the fishing vessel*.

Certificate of the vessels in collision

4.8 The statutory trading certificates of *the vessel* were valid and in order. No information was provided for the certificates of *the fishing vessel*.

Weather, visibility and tidal stream conditions

4.9 The weather was reported to be cloudy with a northerly gentle breeze wind force 3. The sea was smooth and the visibility was about 3 to 5 n.ms. No significant tidal stream was observed to affect the ships' movement before the accident. The weather and sea conditions were not considered to have any bearing on the occurrence of the accident.

The collision points of both vessels

4.10 An inspection on the hull external of *the vessel* was carried out at the wharf of Kaohsiung,

where fresh scratch damage on the paint of bulbous bow on starboard side was found. The hull plate was indented slightly without crack. No damage was found on the stiffening structure such as the frame and stiffeners. No water ingress was found. The damage found did not affect the seaworthiness of *the vessel*. No repair was needed according to the survey report from *the vessel*'s classification society.

4.11 Inspection on *the fishing vessel* was also conducted after she was lifted and placed on pontoon. A damage was found at the starboard quarter of the wooden hull under waterline (see also Figure 2). It could be deduced that the forward starboard part of the bulbous bow of *the vessel* collided with the starboard side of *the fishing vessel* as illustrated in Figure 10.

4.12 The tracks of both vessels were established by plotting their positions on the chart. It indicated that, at about 0532 hours, *the fishing vessel* was coming from port side of *the vessel* at a distance of about 0.23 n.m (426 metres) and bearing of about 160°, which was almost right ahead of *the vessel*. Considering the length of *the vessel* of 151 metres, and the size of *the fishing vessel*, the distance between them would be too short for avoiding collision. The collision occurred at about 053223 hours while *the fishing vessel* was passing ahead of *the vessel*, and *the vessel* was altering her course to starboard (Figure 11).

Action taken by *the vessel*

4.13 As described in paragraph 3.4, a risk of collision existed between target No.61 and *the vessel* at 0515 hours. Target No.61 was in a crossing situation having *the vessel* on her starboard side. *The fishing vessel* behind target No.61 was in the same crossing situation with *the vessel*, but it was not plotted by the duty officer.

4.14 In accordance with Rule 15 of COLREGS, when two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of another vessel. Under Rule 16 of COLREGS, every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear. Under Rule 17 of COLREGS, when a vessel is to keep out of the way, the other shall keep her course and speed.

4.15 As established from paragraph 4.13 and 4.14 above, target No.61 and *the fishing vessel* were the give-way vessels and *the vessel* was the stand-on vessel in this crossing situation. Instead of being the stand-on vessel which should maintain her course and speed, *the vessel* made a succession of small alterations of her course from 155° to 165° to avoid collision with target No.61. *The vessel* then resumed the course to 155° at 0528 hours after target No.61 passed on her port side. The action taken by *the vessel* of performing small alteration of course was not in compliance with Rule 17 of COLREGS. It appeared that *the vessel* did not take appropriate avoiding actions as required by Rule 17 of COLREGS while the give-way vessel was not taking appropriate action in compliance with these Rule.

4.16 Investigation found that *the vessel* did not make her main engine ready for maneuvering in this port approaching area with high dense traffic. At about 0532$_{09}$ hours, the 3/O ordered *"hard to starboard"* to avoid the collision. A few seconds later, the collision occurred at about 0532$_{23}$ hours.

4.17 The target of *the fishing vessel* had displayed on *the vessel*'s radar screen since 0515 hours, but the duty officer failed to plot this target. The duty officer stated that about 3 minutes before the collision, he noted the target by sight but it was not clear on the radar. He then took action of avoidance less than 1 minute before the collision. It was obvious that the duty bridge team of *the vessel* did not take a proper look-out according to Rule 5 of COLREGS by taking all means, including radar plotting, to detect and assess the risk of collision.

Action of *the fishing vessel*

4.18 Without any statements from the relevant fishing company, the action taken by *the fishing vessel* before the collision could not be determined. The radar display screen of *the vessel* indicated that *the fishing vessel* was proceeding west bound and maintained her course at a speed of about 8 knots. The target No. 61 had the same course and speed. In the crossing situation with *the vessel* on her starboard bow, *the fishing vessel* was a give-way vessel. However, the radar record of *the vessel* indicated that no collision avoiding action was taken by *the fishing vessel* in accordance with Rule 16 of COLREGS. *The fishing vessel* had failed to take early and substantial action to keep well clear from another vessel. Furthermore, it could also be deduced that *the fishing vessel* did not comply with the requirements of Rule 5 (look-out) to maintain a proper look-out.

The bridge resource management and teamwork

4.19 According to the record of VDR, the screen display of No.1 radar of *the vessel* was fixed on 6 n.ms range and off-center display in relative motion mode. Neither manual plotting of *the fishing vessel*, nor change of range or motion mode had been made during the period about 1 hour before the collision. No action was taken to check the bearing change of *the fishing vessel* by means of using Electronic Bearing Line (EBL) (Figure 3, 4, 5). No whistle sound was sounded. The event button of GPS was not used to record the position immediately after the collision and as such, the bridge team of *the vessel* could not identify the actual position of the collision when they turned *the vessel* back for the SAR operation.

4.20 The bridge team comprised the 3/O, A3/O and duty AB. The VDR however, did not record any internal communications among the bridge team members. The 3/O took no collision avoiding action before 0531 hours for the closing *fishing vessel.* After the collision, none of them recorded immediately the collision position. The bridge resource management and teamwork on bridge of *the vessel* was weak and ineffective.

Fatigue, alcohol and drugs abuse

4.21 The record of alcohol test before the duty indicated that the alcohol in the breath of duty persons of bridge team members and master were 0 mg/l. There was no evidence indicating that the master, officers or the duty AB on *the vessel* had been affected by alcohol. In the incident, the crew did not seem to be affected by drug. No information was available as to whether the coxswain or the fisherman had been affected by alcohol or drugs while maneuvering *the fishing vessel*.

4.22 The record of "*shipboard working arrangement*" and the declaration "*record of hours of rest of seafarers*" were checked. All duty persons of *the vessel* had a rest period of about 14 to 16 hours every day. It appeared that all of them had not suffered from fatigue. For the coxswain and fisherman of *the fishing vessel*, no information was available to show whether they suffered from any fatigue.

The voyage and voyage plan

4.23 *The vessel* was a medium-sized container feeder vessel engaged on short voyages varying from several hours to several days within Asia. The current voyage was from Fuzhou to Kaohsiung. In accordance with the requirements of shipboard safety management system (SMS), a voyage plan had been prepared under *the vessel*'s voyage reference number E899, which comprised "*list of waypoints*", "*appraisal*", "*voyage planning*" and "*execution*".

4.24 Investigation found that the waypoints of the approved voyage plan under section "*Confined area: narrow channel, traffic separation, control areas*" were not consistent with the current voyage. In Part C "*execution*" of the voyage plan, many items such as "*navigation in ice district*", "*in restricted visibility*" and "*helicopter/ship operation checklist*" etc., were checked but these items were not relevant to the current voyage. The voyage plan including the chart work did not mark the position where the engine should be made ready for maneuvering upon *the vessel* entering into the dense traffic area when approaching the port at cruising speed. Furthermore, the duty officer did not comply with the requirement of voyage plan section "*master's orders for the passage*" which required the duty officers to "*keep sharp look-out, give wide berth for all passing vessels, and keep clear of all fishing vessel at least 1n.m.*". According to the above findings, it was concluded that the voyage plan had not been prepared or executed properly.

The checklists of "Arrival and Departure Check List for Bridge" and "Check List for Navigation in High Density Traffic Areas"

4.25 The "Arrival and Departure Check List for Bridge" (the A/D checklist) of the shipboard SMS stipulated the preparatory work for entering or leaving port. In accordance with the requirements of the A/D checklist, the master is responsible for confirming that all the requirements relating to safety and pollution prevention on board *the vessel* are fulfilled

before leaving or entering a port. The investigation found that the arrival check items (total 17 items) for A/D checklist were checked on 29 February 2016 by the duty officer and the master, including the items: "*stand-by main engine, air horn test, steering gear test, test main engine astern function, broadcast all hands standby, calling pilot station to confirm boarding time, preparing pilot ladder, etc.*". However, it was in doubt that the A/D checklist was properly carried out. For example, items of "*stand-by main engine*" and "*test main engine astern function*" were not likely to be done. The main engine was put on stand-by and ready for maneuvering at 0539 hour (i.e. a few minutes after the collision), where *the vessel* was about 7 n.ms to the entrance buoy of Kaohsiung. Some of the checklist items were not relevant to the current operation but was ticked. For example, item of "Broadcast all hands stand by." was not required for anchoring operation upon arrival of the anchorage.

4.26 The "*Check List* for *Navigation in High Density Traffic Areas*" (HDTA checklist) was completed also by checking all the items. As revealed in the investigation, the time and position of the commencement and termination in HDTA were not recorded in the log book as required and that the main engine telegraph sounded ready for maneuvering only at 0539 hours after the collision. It was therefore very doubtful that the engine room was ready for HDTA despite the checklist items "*Has engine room been informed for immediate maneuvering?*" and "*Have time and position of commencement and termination been recorded in log book?*" were checked. As a result, it was quite evident that the engine room was not ready for immediate maneuvering to allow the duty officer to apply crash-stop as appropriate to avoid collision.

5. Conclusion

5.1 At 1218 hours on 28 February 2016, *the vessel* sailed from Fuzhou, China with general cargo in containers to Kaohsiung, Taiwan.

5.2 At about 0524 hours in the early morning on 29 February 2016, *the vessel* reported to the Kaohsiung VTS and received instruction to drop anchor upon her arrival. At about 0532 hours, when *the vessel* was proceeding at a speed of about 15 knots, she collided with *the fishing vessel*. As a result of the collision, *the vessel* sustained small paint scratch and small dent on her starboard bulbous bow while *the fishing vessel* was turned upside down. SAR operation for the search of coxswain and fisherman of *the fishing vessel* was conducted but without any finding. The capsized *fishing vessel* was salvaged on 1 March 2016 and the body of the coxswain was found inside the wheelhouse. The fisherman was missing.

5.3 The investigation revealed that the main contributory factors of the accident were as follows:

a) both *the vessel* and *the fishing vessel* failed to comply with Rule 5 (Look-out) of the International Regulations for Preventing Collisions at Sea 1972 (COLREGS) by not maintaining proper look-out. The target echo of *the fishing vessel* appeared on the radar of *the vessel* at a distance of more than 6 n.ms, but the duty officer failed to utilize the radar to plot or check the target in order to determine the risk of collision;

b) *the fishing vessel*, being a give-way vessel to *the vessel*, failed to comply with Rule 16 (action by give-way vessel) of the COLREGS by not taking any action to keep well clear of *the vessel*; and

c) *the vessel*, being the stand-on vessel in a crossing situation, failed to comply with Rule 17 (action by stand-on vessel) of the COLREGS to keep her course and speed, or take action as will best aid to avoid collision.

5.4 Investigation also found the following safety factors:

a) before the collision, *the vessel* proceeded with a cruising speed of about 15 knots under the command of a junior officer in a port approaching area of high traffic density without making her main engine ready for maneuvering. The bridge team members did not follow the requirements of the shipboard safety management manual relating to the "*Check List for Navigation in High-Density Traffic Areas*" and "*Arrival and Departure Check List for Bridge*" to: -

(i) make the engine ready for maneuvering; and

(ii) record the time and position of the commencement and the termination of this navigation in high-density traffic area in the log book.

b) the voyage plan was not prepared or executed properly. The duty officer checked all the boxes of the checklist in which some items were irrelevant to the current voyage and some checked items had in fact not been performed.

c) the bridge resource management and teamwork on bridge of *the vessel* was weak and ineffective.

6. Recommendations

6.1 A copy of this report should be sent to the master and the company of *the vessel* (*the company*), advising them of the findings of this incident. *The company* should inform all masters, officers and crew of the findings of this accident investigation and, in particular, to instruct all deck officers of *the company* fleet to be fully conversant with the Rules of COLREGS.

6.2 In order to ensure that the shipboard SMS can be implemented effectively, *the company* should conduct internal audits for *the company* and all the HK registered ships under *the company,* and to provide additional training on the bridge team management.

6.3 A Hong Kong Merchant Shipping Information Notice is to be issued to promulgate the lessons learnt from the accident.

7. Submission

7.1 The draft report was sent to the following parties for their comments:

a) *the company* and the master of *the vessel*;

b) the next of kin of the coxswain of *the fishing vessel*; and

c) the Ship Safety Branch of the Marine Department.

7.2 Comments were received from *the company* and the report was revised as appropriate.

Appendix – Figures

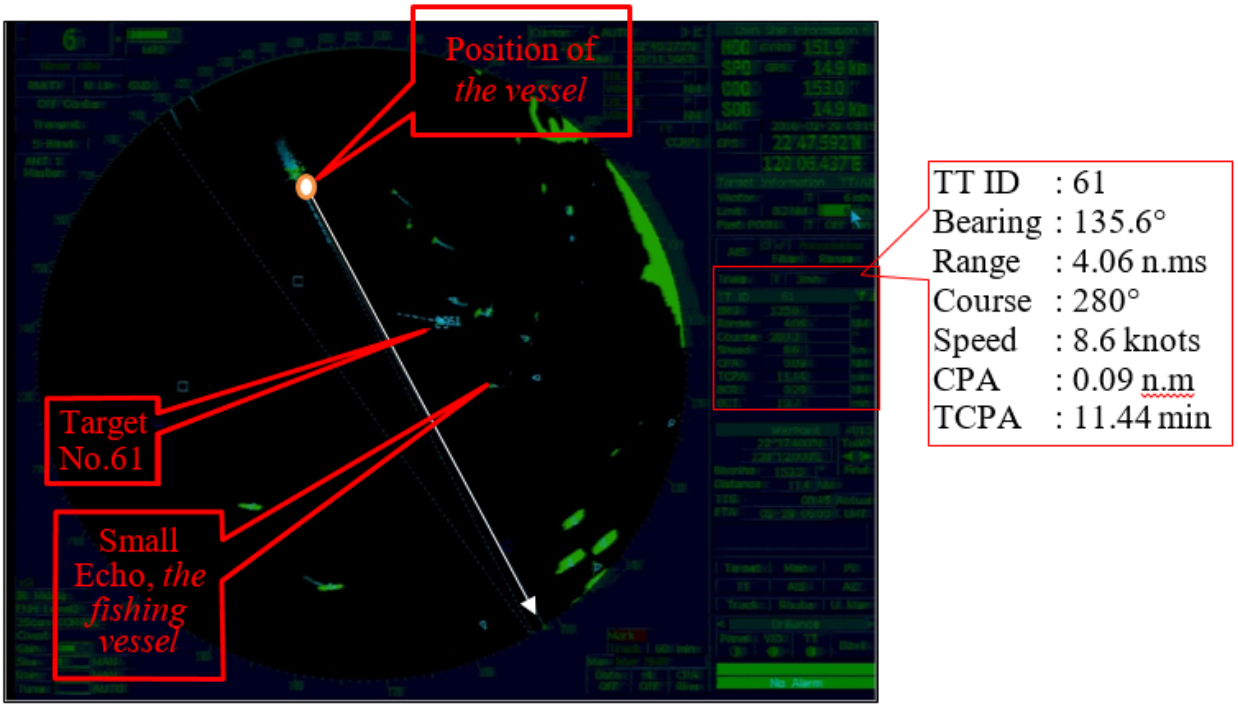

Figure 3 - The Radar screen at 0515 hours

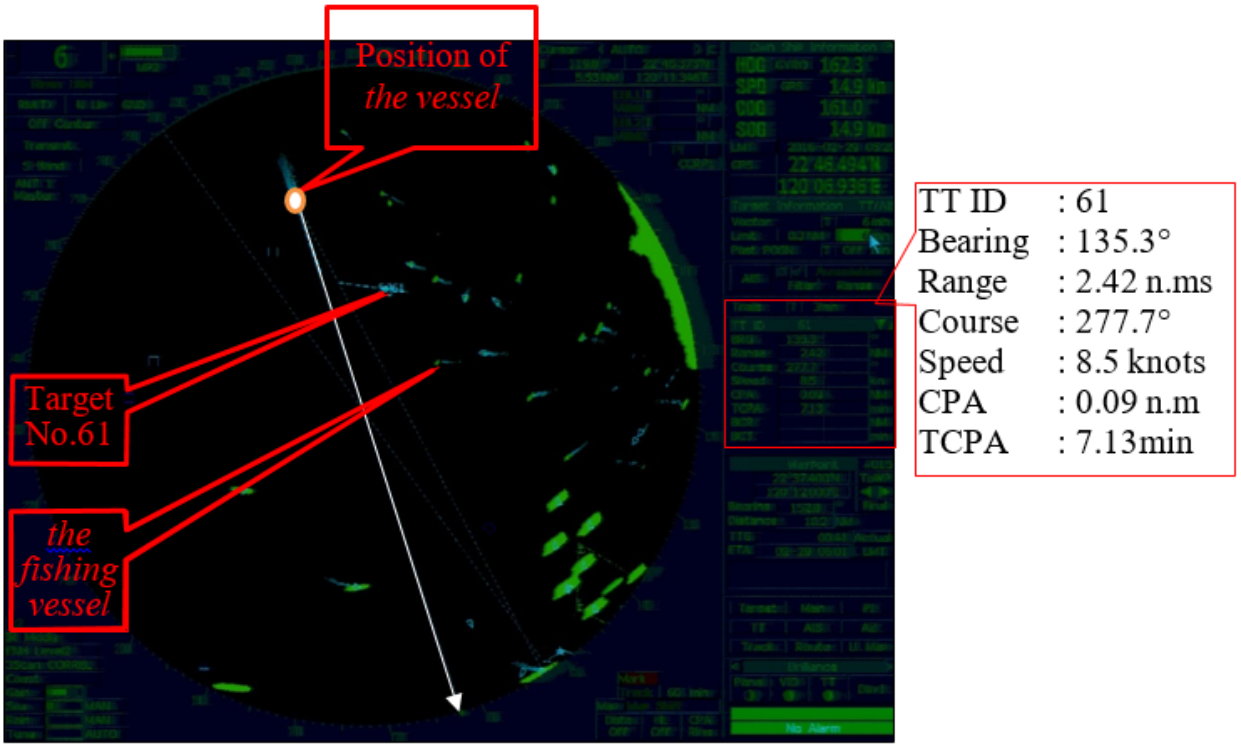

Figure 4 - The Radar screen at 0520 hours

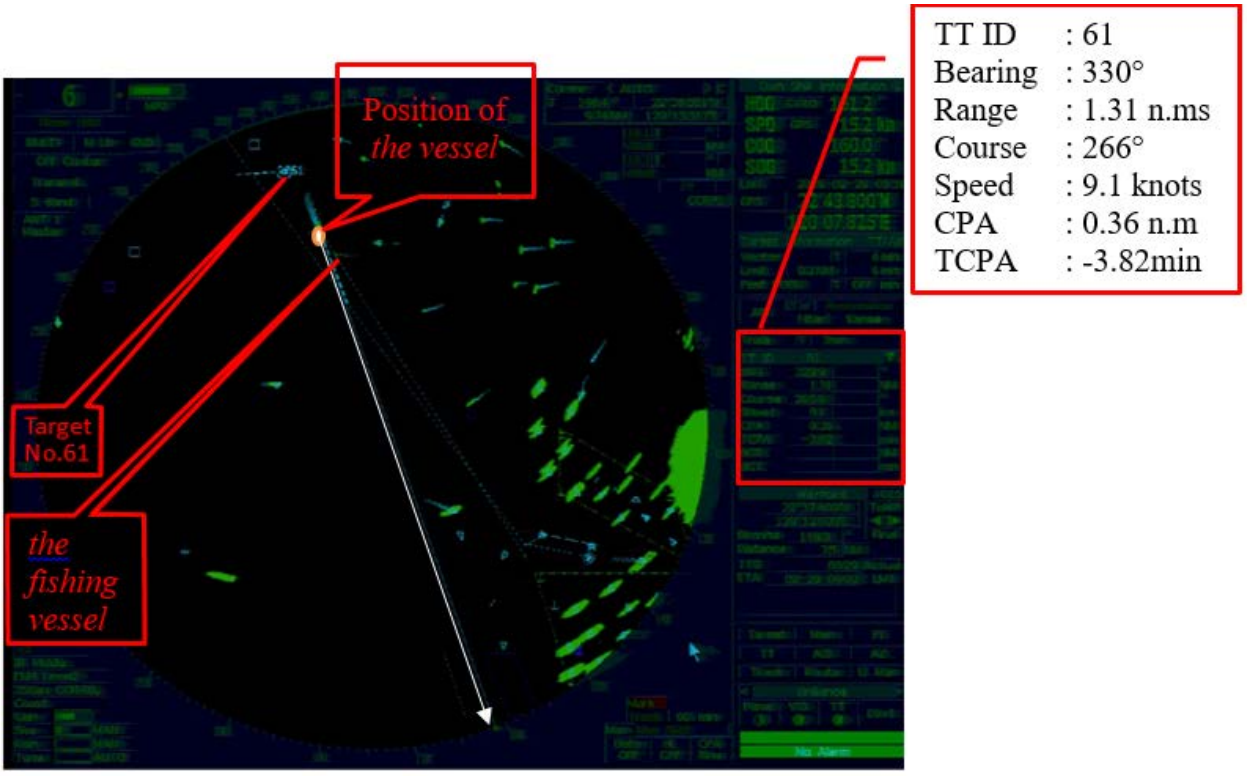

Figure 5 – The radar screen at 0530 hours

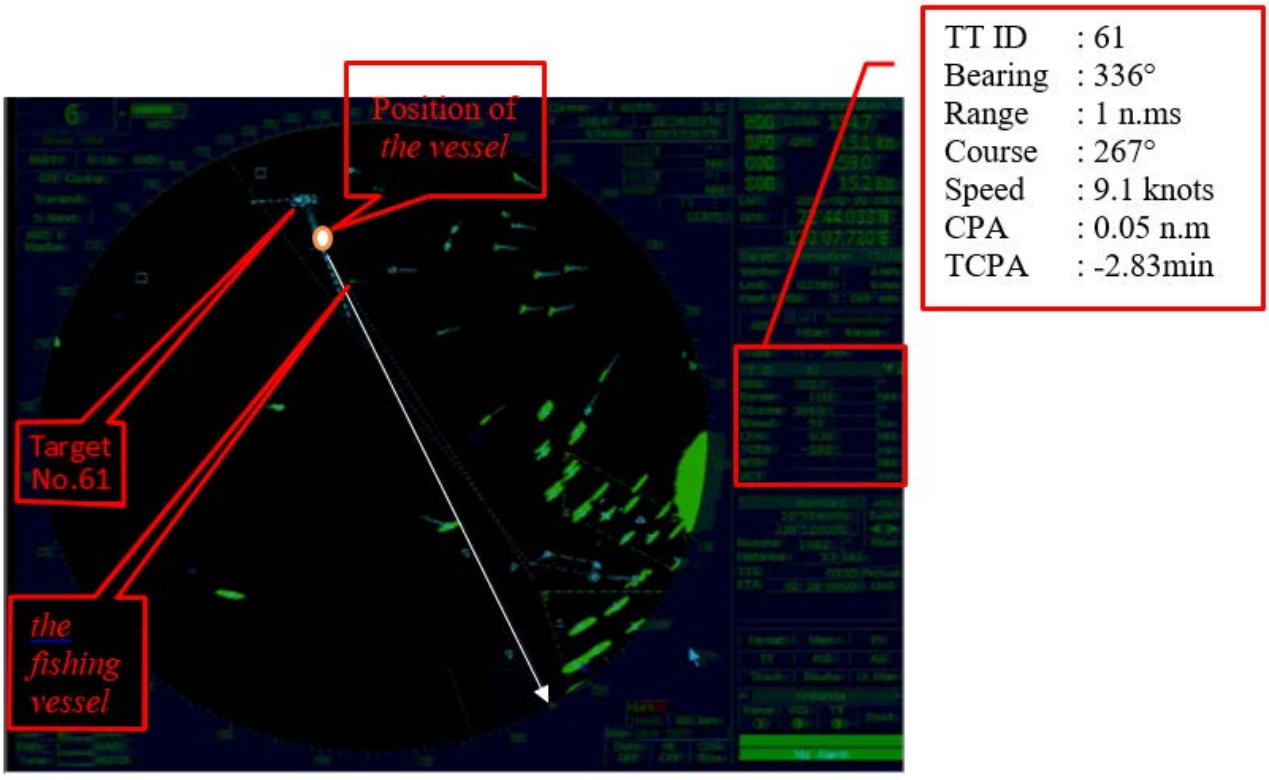

Figure 6 – The radar screen at 0531 hours

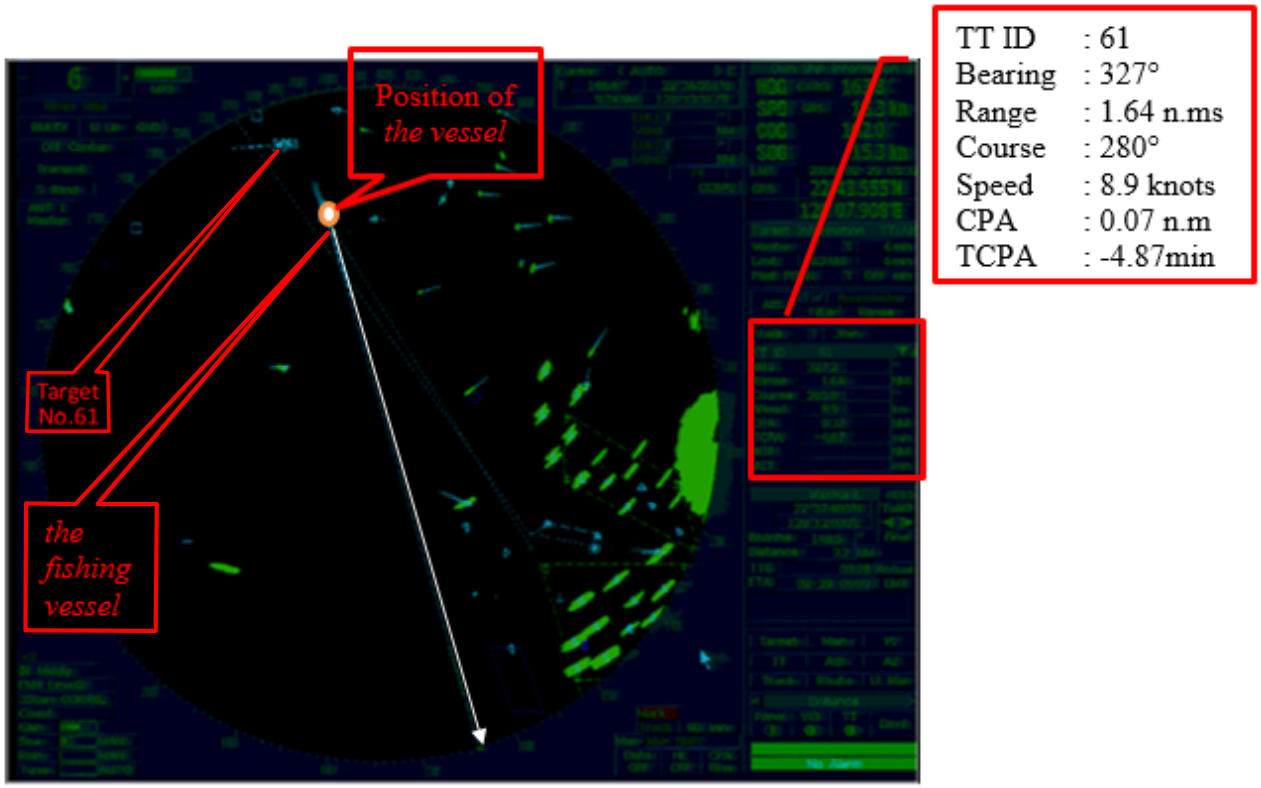

Figure 7 – The radar screen at 0532 hours

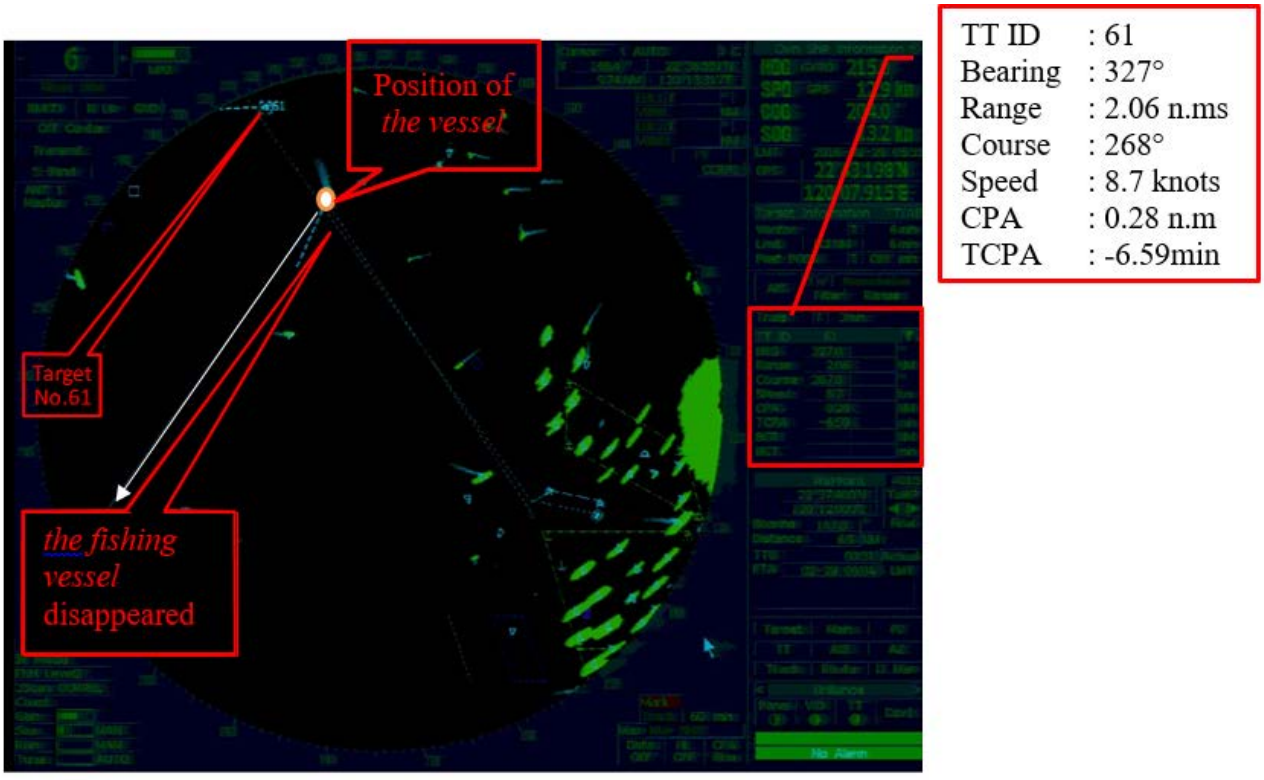

Figure 8 – The radar screen at 0533 hours

Figure 9 - *the fishing vessel* floating upside down on the sea surface

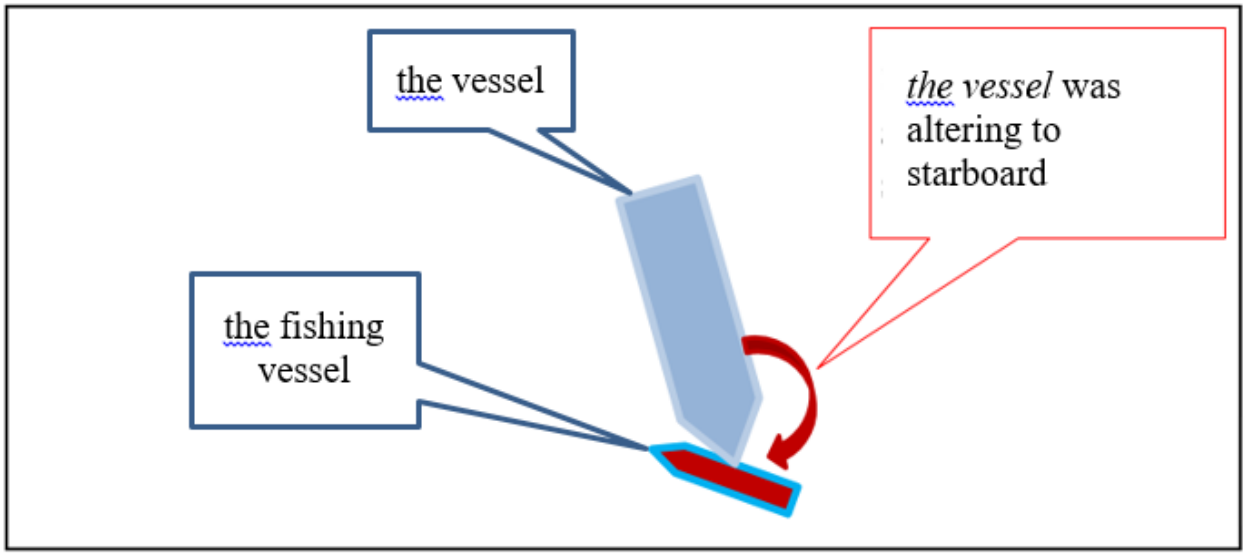

Figure 10 – Illustration of the collision between *the vessel* and *the fishing vessel*

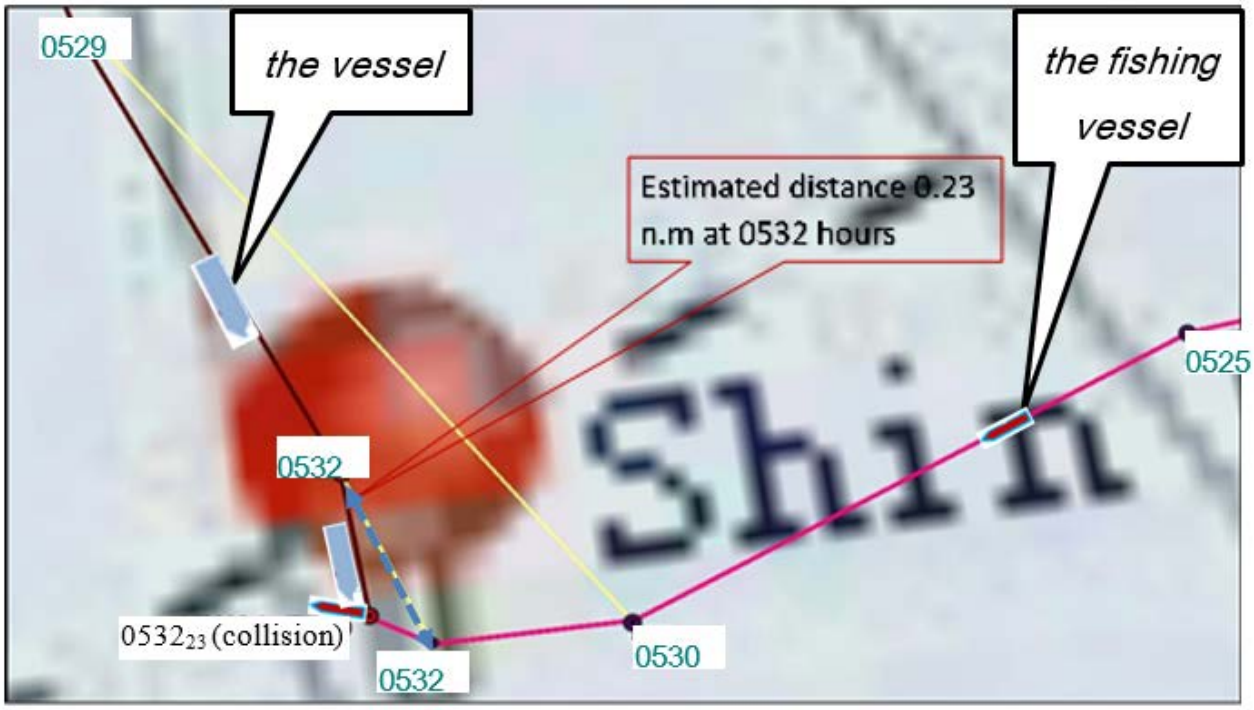

Figure 11 – The track of *the vessel* and *the fishing vessel* at last moment before collision