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Accident
Investigation Board
Norway

Issued February 2017

REPORT Marine 2017/03

REPORT ON MARINE ACCIDENT - COLLISION BETWEEN CLIPPER QUITO LAPW7 AND LURONGYU 71108 IN THE YELLOW SEA 12 OCTOBER 2015

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This report has been translated into English and published by the Accident Investigation Board Norway (AIBN) to facilitate access by international readers. As accurate as the translation might be, the original Norwegian text takes precedence as the report of reference.

Photo of ferry on the Norwegian west coast: Bente Amandussen

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NOTIFICATION OF THE ACCIDENT

On 12 October 2015, the Accident Investigation Board Norway (AIBN) was notified by the Norwegian Maritime Authority (NMA) of a collision between the tanker *Clipper Quito* and a Chinese fishing vessel in the Yellow Sea. The NMA's notification was based on an accident report from the shipping company.

Figure 1: Map section marking the position in the Yellow Sea where the two vessels collided. Map: Google Maps

SUMMARY

On 12 October 2015 the tanker *Clipper Quito* was crossing the Yellow Sea en route to Yantai in China. The fishing vessel *Lurongyu 71108* was also in the Yellow Sea that day, heading for the fishing grounds together with another fishing vessel. The crew on *Clipper Quito* had observed the two fishing vessels on the port bow, while *Lurongyu 71108* had not observed the tanker. The fishing vessels were on course to cross ahead of *Clipper Quito*.

An evasive manoeuvre on the part of *Clipper Quito* was made when one of the fishing vessels, *Lurongyu 71108*, was seen to change course. However, this was not sufficient to avoid a collision between the two vessels. *Lurongyu 71108* sank after the collision with *Clipper Quito* and one of the five fishermen is assumed to have died.

The AIBN considers that the following factors in the sequence of events had the greatest impact on the collision:

- The fishing vessel had a duty to give way, but had not observed the tanker.

- The tanker did not take sufficient account of the required safe passing distance when it allowed the fishing vessels to get too close.

- The tanker made an evasive manoeuvre to starboard when they perceived that the fishing vessel had changed course to starboard, heading straight towards them.

- The master on board *Clipper Quito* was not notified when the critical situation arose.

The investigation into this marine accident has not identified areas in which the Accident Investigation Board Norway deems it necessary to submit new safety recommendations, but the shipping company is urged to follow up safe navigation and teamwork on the bridge, as well as situations of crisis and notification procedures.

1. FACTUAL INFORMATION

The factual information is based on written statements from *Clipper Quito*'s crew, examinations of *Clipper Quito*'s Voyage Data Recorder (VDR), interviews with the crew on board the fishing vessel *Lurongyu 71108*, information provided by China Maritime Safety Authority (China MSA), the Norwegian Maritime Authority (NMA), DNV-GL and the shipping company Solvang ASA.

Local times are used in the description of the sequence of events. Local time corresponds to UTC (Coordinated Universal Time) +8 hours.

1.1 Sequence of events

Figure 2: The tanker 'Clipper Quito'. Photo: Solvang ASA

Clipper Quito left Port of Bonny in Nigeria after loading butane on Sunday 13 September 2015. It was destined for Yantai in China, via Singapore.

The fishing vessel *Lurongyu 71108* left Taoyuan Port in Shidao together with the fishing vessel *Lurongyu 52263* on 12 October 2015 in the early afternoon. Both fishing vessels set course for fishing zone 132 in the Yellow Sea, where they intended to fish. *Lurongyu 71108* sailed first and *Lurongyu 52263* followed in its wake.

Figure 3: Random fishing vessel of the same type as 'Lurongyu 71108', docked in Shidao. Photo: AIBN

On board the fishing vessel, the ‘chief officer’ and some of the other Chinese fishermen had worked for nearly four hours after departure Shidao with readying of some fishing gear on the aft deck, while the ‘captain’ was at the helm, steering the vessel.

Clipper Quito was also in the Yellow Sea on 12 October. The bridge was manned by the officer on bridge watch and a lookout. The tanker’s autopilot was engaged and there was much traffic to take account of in the surrounding waters. At 16:45 the officer on bridge watch made an evasive manoeuvre to starboard to give way for a cargo ship and two other ships. At 18:05 the officer on bridge watch slowly returned back to the original course.

At 19:41, the officer on bridge watch observed the two fishing vessels on the radar. Both fishing vessels were on course towards them on the port bow. They were 6.49 nm away and would, according to the officer’s calculations, cross ahead of *Clipper Quito* at a closest point of approach (CPA) of 0.3 nm. The lookout communicated to the officer that he could see the two fishing vessels on the port bow, that they displayed red over white lights and that the deck lights were on.

Clipper Quito’s course was set at a heading of 356 degrees and it held a speed of 15 knots. The fishing vessel *Lurongyu 71108* was not equipped with an automatic identification system (AIS), but Clipper Quito’s S-band radar and ECDIS, stored in the VDR, indicated that the fishing vessel had a heading of 148 degrees and held a speed of around 6 knots. In accordance to the shipping company internal report, the officer on bridge watch was mainly using the X-band radar and ECDIS during his watch.

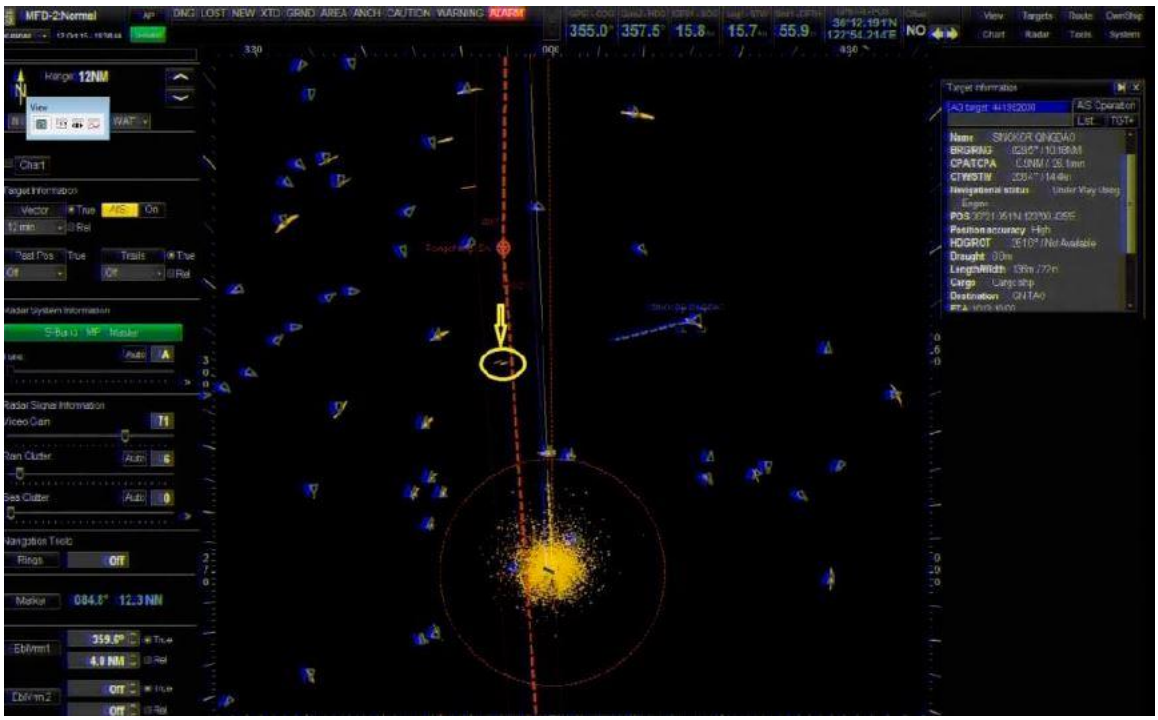

Figure 4: A radar image of the S-band radar at 19:40. The radar echoes of both ‘Lurongyu 71108’ and ‘Lurongyu 52263’ were approx. 7 nm away from Clipper Quito, and is marked with a yellow circle. VDR source: Solvang ASA

At around 19:50, the ‘chief officer’ on board *Lurongyu 71108* had just finished his dinner in the mess and went up into the wheelhouse to relieve the ‘captain’ at the helm. The

'chief officer' took over the helm and the 'captain' remained standing on his right; he did not go down for his dinner.

At 19:55, the officer on bridge watch on *Clipper Quito* perceived that *Lurongyu 71108* made a sudden change of course to starboard, straight towards the tanker, and the lookout reported to the officer of the watch that *Lurongyu 71108* had come quite close. At 19:56, the radar indicated a collision warning. The officer on bridge watch on *Clipper Quito* ordered the lookout to take the helm and apply hard starboard rudder, but this was not sufficient to prevent *Clipper Quito* from colliding with *Lurongyu 71108* at 19:57:30 in position N 36° 17.6' E 122° 53.7'.

The 'chief officer' on *Lurongyu 71108* stated in an interview that he held *Lurongyu 71108* on a steady course right up to the time of the accident, which occurred approximately five minutes after he had taken over the helm, while the 'captain' was still standing on his right. He said that they had not at any time observed the tanker *Clipper Quito* prior to the time of the collision. He explained that the reason why they had not observed the tanker before was probably that their radar was turned off and that, from the helm position, the line of sight to starboard was blocked by a provisional sleeping cabin built in front of the windows on starboard side of the wheelhouse.

The collision with *Clipper Quito* caused both the 'chief officer' and the 'captain' on *Lurongyu 71108* to be thrown onto the wheelhouse deck. The 'chief officer' quickly got up and ran out on deck. The 'chief engineer' on board the fishing vessel was missing and the 'chief officer' said that he and the three other Chinese fishermen had looked for him everywhere.

The 'chief officer' stated that the tanker had hit *Lurongyu 71108* on the starboard side and that the vessel was stuck to the bow of *Clipper Quito*, which continued to plough through the water. The fishing vessel was being pushed in front of *Clipper Quito*, and for about 10 minutes, the four fishermen had called out and shouted to the tanker. They knocked on its hull with an axe and a hammer in order to get *Clipper Quito* to stop moving forward through the water.

1.2 The search and rescue operation

The officer on bridge watch on *Clipper Quito* reduced the speed from full speed forward to minimum speed forward and alerted the master. The master arrived on the bridge while the speed was being reduced and assumed command at 20:02. At 20:04, the officer on bridge watch, chief officer and bosun went forward to the forecastle while the master, second mate and junior officer of the watch stayed on the bridge together with the helmsman and a lookout.

The 'chief officer' on *Lurongyu 71108* stated that it took quite some time before the tanker came to a complete stop. The group standing on the forecastle of *Clipper Quito* reported to the master that they could see the fishing vessel *Lurongyu 71108* on the port bow and that it eventually slid along the port side of *Clipper Quito*. The crew saw marks in the bow indicating that *Clipper Quito* had collided with the fishing vessel.

Clipper Quito turned and went back to the scene of the accident to assist the fishing vessel. While the tanker was turning, the crew observed that the other fishing vessel, *Lurongyu 52263*, arrived at the scene of the accident. *Lurongyu 71108* sank before *Clipper Quito* reached the accident site.

The four fishermen on board *Lurongyu 71108* put on life jackets and jumped into the sea as the vessel foundered under their feet. The four fishermen were eventually picked up by the fishing vessel *Lurongyu 52263*. The 'chief engineer' on *Lurongyu 71108* was still missing. The 'chief officer' said that he could remember being picked up from the sea, after which he fainted and could not remember anything until he woke up in hospital.

Clipper Quito transmitted distress signals at 20:24, and the shipping company was contacted. At that time, the crew were unable to establish contact with the Maritime Rescue Coordination Centre (MRCC) or the tanker's Chinese agent.

Clipper Quito returned to the scene of the accident at 20:34 and attempted to communicate with *Lurongyu 52263* in order to check whether all the fishermen had been picked up from the sea, but the Chinese crew were unable to communicate in English.

Clipper Quito was able to establish contact with its Chinese agent at 20:50. They asked the agent to inform the authorities of the accident because the crew on board *Clipper Quito* had been unsuccessful in their attempts to do so. *Clipper Quito* was able to establish contact with Qingdao MRCC at 20:57 and informed MRCC of the collision.

Qingdao MRCC raised the alarm and immediately dispatched the rescue vessel *Beihaijiu 111* so that it could participate in the rescue operation at the scene of the accident. MRCC also saw to coordination with nearby fishing vessels and merchant vessels.

MRCC continued to communicate with *Clipper Quito* and was interested in obtaining more information about the fishermen. Using hand signals as a means of communication, *Clipper Quito* was able to take aboard one of the crew from *Lurongyu 52263* at 21:49, who was able to communicate with Qingdao MRCC and provide information about the situation of the fishermen from the foundered fishing vessel. At this time, *Clipper Quito* was informed that four persons had been picked up from the sea and that one person was still missing.

Clipper Quito continued to search for the missing fisherman. One life ring and some objects from the foundered vessel were floating in the water, but the crew found no trace of the missing fisherman. *Clipper Quito* observed that the cargo carrier *Linda Kosan* also participated in the search for quite some time before it eventually continued on its voyage.

At 01:55 on 13 October, Qingdao MRCC announced that the rescue boat *Beihaijiu 111* had arrived at the scene of the accident. At 02:10, *Clipper Quito* communicated with the rescue boat and was instructed to continue the search operation.

Clipper Quito continued to search for the missing fisherman until 05:15, when it contacted Qingdao MRCC by telephone and requested permission to stop its search operation. *Clipper Quito* received permission from Qingdao MRCC to stop the search and resumed its voyage to Yantai at 06:00.

1.3 Description of injuries/damage

The Chinese fishing vessel *Lurongyu 71108* sank after the collision with *Clipper Quito*.

On the port side of the bow of *Clipper Quito*, there was a 15–20 mm deep dent of approximately 200 mm in diameter. Many scratch marks and blue paint marks could be seen at the bow and on both sides of the bow.

Figure 5: The photos show the marks/damage on both sides of 'Clipper Quito's' bow. Photo: Solvang ASA

1.4 The crews

1.4.1 *Clipper Quito*

At the time of the accident, *Clipper Quito* had a crew of 18. All had valid certificates according to their positions on board. When the accident occurred, the bridge was manned by the officer of the bridge watch and a lookout (able seaman). The master and crew on watch had the following qualifications:

The master was a Spanish national born in 1960, employed by the shipping company since June 2007. He had worked as a master since May 1999. He held a master's certificate issued by the Norwegian Maritime Administration (NMA) on 30 June 2011, valid until 26 May 2016. He had completed his most recent bridge resource management (BRM) course in 1992.

The officer on bridge watch was a Philippine national born in 1984, employed by the shipping company since May 2007. He had worked as a third mate since August 2008.

He held a marine officer's certificate issued by the NMA on 30 June 2011, valid until 31 December 2016. He had completed his most recent BRM course in 2007.

The lookout was an able bodied seaman (AB), employed by the shipping company since October 2006. He had functioned as an AB since September 2011.

1.4.2 *Lurongyu 71108*

The fishing vessel *Lurongyu 71108* had a crew of five fishermen, all Chinese nationals.

According to information received from China MSA, the crew of this fishing vessel did not hold relevant certificates and there was no information about them in the Chinese Register of Fishing Vessels. The missing vessel owner worked as 'chief engineer' on board.

According to China MSA, three of the five Chinese fishermen referred to themselves as 'captain', 'chief officer' and 'chief engineer', respectively, but they did not hold the requisite certificates.

1.5 Weather and sea conditions

According to the tanker's log book, there was a north-westerly moderate gale (10–12 m/s), an overcast sky and wave heights of 2–4 m at the time of the accident. The barometer pressure was 1,019 hPa and the air temperature was +18 °C.

1.6 Waters

In the Yellow Sea, we find the most important fairway between the northern and southern parts of China, used by both local and foreign merchant vessels. The accident occurred approximately 40 nautical miles south of Shidao in the Shandong Province. The waters here are heavily trafficked by both merchant vessels and fishing vessels criss-crossing in every direction.

1.7 The vessels

1.7.1 *Clipper Quito*

Clipper Quito was a tanker of the type Very Large Gas Carrier (VLGC), built at Hyundai Heavy Industry in Ulsan in South Korea in 2013. The ship was owned by the shipping partnership Clipper Victory II DA and was operated by the shipping company Solvang ASA of Stavanger.

At the time of the accident, the ship was registered in the Norwegian International Ship Register (NIS) with Stavanger as its home port, and it had valid certificates issued by DNV-GL.

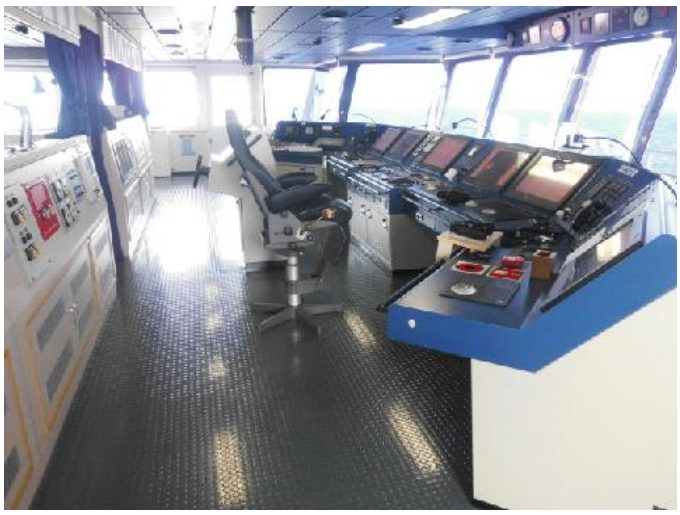

Figure 6: Bridge arrangement on board 'Clipper Quito'. Photo: Solvang ASA

1.7.2 *Lurongyu 71108*

The fishing vessel *Lurongyu 71108* was 27.18 m long and 5.2 m wide. No ship documents were available for the vessel. China MSA described the vessel as a blue coloured fishing vessel of steel construction. The fishing vessel was owned by the missing 'chief engineer'.

1.8 Relevant rules and regulations

1.8.1 Provisions on watch-keeping on passenger ships and cargo ships

According to Appendix A Part 3 Section 9 of the Regulations of 27 April 1999 No 537 concerning watch-keeping on passenger ships and cargo ships, the master of every ship is bound to ensure that watch-keeping arrangements are adequate for maintaining a safe navigational watch. Under the master's general direction, the deck officers on watch are responsible for navigating the ship safely during their watch periods, when they are required to pay particular attention to avoiding collision and running aground. According to Appendix A Part 3-1 Section 13, a proper lookout shall be maintained at all times in accordance with Rule 5 of the International Regulations for Preventing Collisions at Sea (1972).

1.8.2 Provisions on the prevention of collisions at sea

The Regulations of 1 December 1975 No 5 for preventing collisions at sea (Rules of the Road at Sea) contain *inter alia* steering and sailing rules (Part B), and provisions on lights, shapes and sound signals (Part C). Rule 8 on action to avoid collision, Rule 16 on action by vessels to keep clear, and Rule 17 on action by vessels who are to keep their heading and course, are relevant to this accident.

1.8.3 ICS Bridge Procedures Guide

The voluntary bridge procedures in the *ICS Bridge Procedures Guide* have inter alia the following recommendations that may be relevant to this accident:

> *3.2.3.3 Collision avoidance detection*
> *…Care however must be taken when approaching very large ships, ships under tow*

or ships at close range. An appreciable bearing change may be evident under these circumstances but in fact a risk of collision may still remain.

4.2.2.1 Accuracy of own ship speed and heading inputs
…The accuracy of the target plot will depend upon an accurate input of own ship's course and speed during the plotting interval; a yawing ship or inaccurate speed and heading inputs into the radar will reduce the accuracy of calculated target vectors. Plot inaccuracies will be most apparent in head-on situations and may make a target appear to be passing clear when in fact it is crossing ahead or nearly ahead.

4.2.2.2 The plotting period
…The estimation of the course and speed of the target and risk of collision is only valid up to the time of the last observation. The situation must therefore be kept closely under review.

B13 Calling the master
The OOW should notify the master immediately:
…if traffic conditions or the movements of other ships are causing concern.

1.9 Measures that have been implemented

A week after the accident, in connection with the shipping company's internal transfer of experience, the management issued a communication to all the company's vessels in which it described its preliminary findings. The management urged all masters to hold a safety meeting with all navigation officers on board each vessel to review the master's personal standing orders. The purpose was to ensure that all officers of the watch understood and would follow up the content of the shipping company/vessel's procedures and the master's personal standing orders/night order book. See Appendix A and B.

Three weeks after the accident the shipping company published an internal report about the accident. The report describes facts, events and analyzes the underlying causes.

2. ANALYSIS

2.1 Introduction

Because of limited access to factual information in the case and the fact that the accident occurred in Chinese waters, the AIBN's assessments in connection with this accident were limited.

2.2 Assessment of the sequence of events

According to the Rules of the Road at Sea, it was *Lurongyu 71108* that should have given way when the two vessels met, to allow *Clipper Quito* to keep a steady course and speed. *Clipper Quito* had calculated that *Lurongyu 71108* would pass 0.3 nm in front of *Clipper Quito*'s bow.

The AIBN perceived that *Clipper Quito* followed the Rules of the Road at Sea and kept a steady course and speed in relation to *Lurongyu 71108,* which they observed on the starboard bow 15-20 minutes before the accident occurred. When the crew on *Clipper Quito* became aware that *Lurongyu 71108* suddenly changed course to starboard and

came straight towards them, the officer on bridge watch on *Clipper Quito* decided to make an evasive manoeuvre to starboard to avoid collision.

The fishing vessel was probably yawning because of the wind and the waves, and the AIBN assumes that *Clipper Quito* at some point perceived this as a change of course to starboard, straight towards the tanker. According to the 'chief officer' on board *Lurongyu 71108*, they had not observed *Clipper Quito* at any time before the accident, probably because the vessel's radar was not on and because the helmsman had a blind sector on the starboard side of the wheelhouse.

The AIBN is of the opinion that the closest point of approach of 0.3 nm that *Clipper Quito* had calculated, gave them far too little control with the situation if something unforeseen should occur. Since *Lurongyu 71108* was crossing at a true course of 148 degrees and a speed of 6 knots, the AIBN assumes that *Clipper Quito*'s evasive manoeuvre to starboard contributed to causing the collision between the two vessels.

In accordance to the shipping company's internal report *Clipper Quito* failed to warn *Lurongyu 71108* when the situation became critical. The AIBN is of the opinion that *Clipper Quito* could have used necessary means like the Aldis lamp or the ships horn to alert the fishing vessel.

The investigation into this marine accident has not identified areas in which the AIBN deems it necessary to submit new safety recommendations, but the shipping company is urged to follow up safe navigation and teamwork on the bridge, as well as situations of crisis and notification procedures.

The AIBN considers that the following factors in the sequence of events had the greatest impact on the collision:

- The fishing vessel had a duty to give way, but had not observed the tanker.
- The tanker did not take sufficient account of the required safe passing distance when it allowed the fishing vessels to get too close.
- The tanker made an evasive manoeuvre to starboard when they perceived that the fishing vessel had changed course to starboard, heading straight towards them.
- The master on board *Clipper Quito* was not notified when the critical situation arose. This will be discussed further in section 2.3 on the duties of the officer on bridge watch.

2.3 The duties of the officer on bridge watch

2.3.1 Wide berth to other vessels

The master on *Clipper Quito* wrote in his night order book that the officer on bridge watch should keep a sharp and proper lookout, particularly for small vessels, and give 'a wide berth to other vessels' when passing them. The officer on bridge watch had calculated that *Lurongyu 71108* would pass in front of *Clipper Quito*'s bow at a closest point of approach of 0.3 nm (556 m).

The AIBN does not consider 0.3 nm to be a particularly 'wide berth to other vessels' having regard to *Clipper Quito'*s size, the waters they were in, the density of the traffic, the wind and sea conditions and night-time vision. Hence, the mention of 'wide berth to other vessels' in the master's night order book did not function as a barrier against accidents in this case. The AIBN urges the shipping company to follow up safe navigation and teamwork on the bridge.

Sections 3.2.3.3 and 4.2.2.1 of ICS Bridge Procedures Guide state that it is difficult to calculate the closest point of approach correctly when a ship is allowed to pass close by, and that there may be a risk of collision even if the bearing of the radar echo indicates the opposite.

2.3.2 Notification

The master on *Clipper Quito* was notified of the accident by the officer on bridge watch immediately after it occurred. It is stated in the master's standing orders that the master shall be called immediately if anything unusual happens and that the officer of the watch must never hesitate to call the captain if a problem arises or in cases of doubt.

The AIBN considers that the officer on bridge watch should ideally have called the captain when it became clear that he was unable to keep a safe passing distance to *Lurongyu 71108*. The AIBN urges the shipping company to follow up situations of crisis and notification procedures, and to look into why they do not always work as intended.

3. CONCLUSION

3.1 Investigation results

a) On a passage to Yantai in China, the tanker *Clipper Quito* observed the fishing vessel *Lurongyu 71108* on its port bow.

b) The officer on bridge watch on *Clipper Quito* considered a closest point of approach of 0.3 nm to the fishing vessel to be sufficient.

c) *Lurongyu 71108* had *Clipper Quito* to starboard and should have given it the right of way, but had not observed the tanker. This was probably because the radar was not turned on and because the navigator had a blind spot on the starboard side of the wheelhouse.

d) The fishing vessel was yawning as it moved through the water because of the wind and sea conditions. The AIBN assumes that the officer on bridge watch on *Clipper Quito* at some point perceived this as a change of course to starboard, straight towards the tanker.

e) When the crew on *Clipper Quito* perceived that *Lurongyu 71108* changed course to starboard and came straight towards them, the officer on bridge watch on *Clipper Quito* decided to make an evasive manoeuvre to starboard to avoid collision.

f) The vessels collided, the fishing vessel sank and one of the five fishermen on board is assumed to have died.

g) The officer on bridge watch on *Clipper Quito* did not call the captain before the collision with *Lurongyu 71108*.

4. SAFETY RECOMMENDATIONS

The investigation of this marine accident has not identified areas in which the Accident Investigation Board Norway deems it necessary to submit a safety recommendation for the purpose of improving safety at sea. However, the AIBN would like to point out that this was a serious marine accident, and that Norwegian shipping companies should focus on preventing such collisions through safe navigation, teamwork on the bridge and handling of crisis situations.

Accident Investigation Board Norway

Lillestrøm, 15 February 2017

DETAILS ABOUT THE VESSEL *CLIPPER QUITO*

Vessel 'A'	
Name	*Clipper Quito*
Flag state	Norway
Class society	DNV-GL
IMO Number/Call signal	9630755/LAPW7
Type	VLGC LPG/Ethylene
Build year	2013
Owner	Clipper Victory II DA
Operator/Responsible for ISM	Solvang ASA, Stavanger, Norway
Construction material	Steel
Length	225.12 m
Gross tonnage	48,051
The voyage	
Port of departure	Port of Bonny, Nigeria
Port of arrival	Yantai, China
Type of voyage	International voyage
Cargo	Butane
Persons on board	18
Information about the accident	
Date and time	12 October 2015 at 20:00 LT (12:00 UTC)
Type of accident	Very serious marine accident
Place/position where the accident occurred	The Yellow Sea, position: N 36° 17.6’ E 122° 53.7’
Place on board where the accident occurred	Mid-bow area
Injuries/deaths	No personal injuries
Damage to vessel/the environment	Damage to the ship's bulb
Vessel operation	Laden voyage
At what point of the voyage was the vessel	En route

DETAILS ABOUT THE VESSEL *LURONGYU 71108*

Vessel 'B'	
Name	*Lurongyu 71108*
Flag state	Unregistered
Class society	-
IMO Number/Call signal	-
Type	Blue fishing vessel – Stern trawler
Build year	-
Owner	The vessel's 'chief engineer'
Operator/Responsible for ISM	-
Construction material	Steel
Length	27.18 m
Gross tonnage	78
The voyage	
Port of departure	Shiado
Port of arrival	Shiado
Type of voyage	Domestic fishing
Cargo	Fish
Persons on board	5
Information about the accident	
Date and time	21 October 2015 at 20:00 LT (12:00 UTC)
Type of accident	Very serious marine accident
Place/position where the accident occurred	The Yellow Sea, position: N 36° 17.6' E 122° 53.7'
Place on board where the accident occurred	Not ascertained
Injuries/deaths	1 death
Damage to vessel/the environment	The vessel sank
Vessel operation	En route to/from fishing grounds
At what point of the voyage was the vessel	En route

ANNEXES

Annex A: Master’s standing orders – I

Annex B: Master’s standing orders – II

ANNEX A: MASTER'S STANDING ORDERS – I

MASTERS STANDING ORDERS WHILE AT SEA AND WITH PILOT ONBOARD

At sea

When vessel are at sea, all navigation must be executed according to the international rules at sea such as COLREG, and with help of all means of equipment's and instruments at hand and the knowledge and common sense of you as a navigation officer.

A good lookout has to be kept and placed near to the bridge wing with communication direct with the OOW.

Bridge watch alarm shall be on from COSP to EOSP every day 24/7 BNWAS shall also be on during anchorage and STS operation with manned bridge. Time when switched on/off BNWAS, interval of the alarm and who is back up to be recorded in deck log book. Only when there are 2 OOW and vessel are on MARSEC 1 level this alarm can be switched off during daytime, this to be logged in deck log book.

The positions to be fixed regularly and recorded in deck logbook and plotted in to the paper chart if no **ENC** coverage. Regularly means minimum every hour. In coastal waters positions fix to be taken more often on intervals not more than 12 to 18 minutes, position fix to be recorded in deck logbook. In coastal waters you must take into consideration the tide, current and wind. Positions fix taken by GPS must be compared with the radar or cross bearings and plotted in to the paper chart if no **ENC** coverage.

All other vessel movements to be watched carefully to avoid **CPA LESS THAN 1 NM IN OPEN SEA WHEN THERE IS RESTRICTED VISIBILITY.**

ALL MANOEUVRES TO BE CARRIED OUT AS EARLY AS POSSIBLE AND MUST BE CLEARLY FOR THE OTHER VESSELS WHAT INTENTION YOU HAVE. Avoid any kind of navigation by **VHF** except in emergency situations. TCPA at open sea must never be set to less than **18 minutes** and CPA not less than **1,0 NM**. Collision warnings are not accepted in open sea, that mean operators are not reading information from ECDIS or RADAR or do not understand that information. AIS data is a very useful tool to avoid any close situations as information is available earlier then we can get from ARPA.

Autopilot to be used in track mode as much as possible, only when give way for other vessels and places with dense traffic such as Singapore strait / Dover strait or similar CRS/head mode to be used, select reasonable turn radius for faster slower turns of the vessel. If of any reasons the autopilot fails, **shift** steering mode to **manual steering** to obtain control of the vessel again.

Place, date
At Sea / 20th September 2015

Master Clipper Quito

Countersigned with date by duty officers:

Chief officer / Sign.....

2nd Officer / Sign .....

3rd Officer / Sign .....

Jr. 3rd Officer / Sign .....

Revised 8/8- 2015 by
D:\Clipper Quito\Masters pers order\masters standing orders b.docx
To be filed on the bridge
When I the master sign off it shall be filed for minimum 6 months

1 - 9

Source: Solvang ASA, Safety Management System

ANNEX B: MASTER'S STANDING ORDERS – II

BRIDGE - MASTER'S PERSONAL STANDING ORDERS

The Officer on watch must be familiar with all navigational, communication equipment. The Officer on watch has the right and obligation to use any equipment, with no restriction to ensure the safe handling of the vessel included use of engine telegraph.

The Master must be called immediately, no matter what time or circumstances:

- In any situation that is or you suspect could be dangerous for the crew or vessel.
- If any machinery, navigational or communication equipment breakdown.
- If you experience problem to fix reliable position, or fails to meet expected landmark, buoy, etc.
- If you feel unsafe in dense traffic or difficult passages.
- If you experience difficulty to manoeuvre the vessel.
- If visibility drops to 2 mile, or if you feel that visibility is unsafe.
- If weather increases abnormal.
- If relevant notice to mariners affecting safe navigation or EMERGENCY MESSAGE is received.
- In general the Master must be immediately informed when any unusual incident occurs, even if you consider it not relevant.

Never hesitate to call the Master if you have a problem or doubt.

Navigation

Always follow the Rules of the Road, manoeuvre so other vessels got a wide range, do not practice the "last minute manoeuvring", do not hesitate to use all the means in your hand to manoeuvre a vessel, engine included if the situation so demands. The 3cm radar shall be **ON** and transmit 24/7 when not at berth/dock to pick up signals from other in emergency using **SART**.

Position must be fixed frequently and with all available means, as follows:

At open sea

Fix position to be logged in deck log book at least every hour, if no **ENC** coverage position to be plotted into paper chart
Celestial navigation to be carried out as often as possible, sun meridian pas time to be calculated every day and observed when practicable and compare with ECDIS.
Calculations to be done in the Celestial Calculations Log only, results to be noted in the Deck log book

Coastal navigation

Fix position at least every hour with GPS and every 30 min. with RADAR as far as practicable, if no **ENC** coverage position to be plotted into paper chart
Use echo sounder and visual bearings to land marks.

Narrow passages

Fix position at least every 10 to 12 min. with RADAR/ visual bearings/ GPS, in difficult passages, shallow waters, strong currents conditions, fix position every six minutes with radar, visual bearings, if no **ENC** coverage position to be plotted into paper chart
Use echo sounder to check water depth
Have in mind that GPS position could be unreliable in big scale charts or wrong chart datum.
All relevant landmarks, lighthouse, buoys, etc must be recognised and noted in the chart when passing by. Missing or moved buoys must be remarked in ECDIS.

With Pilot on board

Remember that when pilot is on board, you still are responsible for the safe navigation so fix position frequently, when passing buoys etc, record the same in the bell book/ deck logbook.
Pay special attention to steering and engine condition and pilot orders.
Call the Master immediately if pilot's orders cause you concern or if any doubt.

Gyro Compass Error:

To be calculated at least once a day and noted in the deck log book and compass log book. Also gyro number to be logged and we need to check both gyros.

Place, date
At Sea / 20th September 2015

Countersigned with date by duty officers:

Chief officer / Sign .....

Master

2nd Officer / Sign .....

3rd Officer / Sign .....

Jr. 3rd Officer / Sign .....

Revised by 10/6 – 2013
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To be posted on the bridge
When I the master sign off it shall be filed for minimum 6 months

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Source: Solvang ASA, Safety Management System