



MAIR050000200902

**Report on the Investigation of the Collision
between
Afflatus and Wen Yue
On 02 May 2009**

Shandong 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

VDR – Voyage Data Recorder

IMO - International Maritime Organization

SOLAS - Safety of Life at Sea Convention

VHF - Very High Frequency

1. Summary

1.1 Brief of the accident

At around 0724 hours LT May 02 ,2009, the bulk carriers “AFFLATUS” (“A” for short) flying HONGKONG flag owned by IDEAL SUCCESS INVESTMENTS LIMITED which sailed from LIANYUNGANG to TIANJIN collided with the general cargo ship “WEN YUE” (“W” for short) flying Belize flag owned by WIN SHINE INTERNATIONAL SHIPPING LTD which sailed from QINHUANGDAO, P.R. China to Korea. The collision GPS position is Lat 37°51'.5N, Long 122°24'.4 E(about 23 nautical miles to the north of Jingzitou, Weihai of P.R. China). The accident caused vessel “W” sunk, one of the crewmembers on the ship was died, others seven crewmembers were lost. It resulted in very serious casualties.

1.2 Brief of investigation

After received the accident report, an investigation team of the accident was established immediately by SDMSA of PRC. The investigation member arrived at the scene of the accident immediately to carry out on scene investigation and collect evidence, had obtained 6 inquire records, 20 ships’ materials, 14

crew' materials, 1 survey report, 2 AIS materials, 1 VDR data.

2. Ship's Particulars

2.1 Vessel "A"

2.1.1 General Introduction of vessel "A"

Name: AFFLATUS

Nationality: HONGKONG P.R. China

Signal Letters: VREA4

IMO No.:8309660

Registry NO.: HK-2154

Registry Date: July 29, 2008

Type of Vessel: bulk carriers

Date and Place Built: Aug 16, 1984, Korea

Classification Society: DNV

L.O.A: 190.0 m

Breadth: 30.0 m

Mould Depth: 16.3 m

Gross Tonnage: 25768t

Net Tonnage: 14253t

Dead Weight: 43309t

Main Engine Power: 8460 KW

Ship speed: 14knots

Owner: Ideal Success Investments Limited

Address: RM.403,4/F,Printing House,6 DUDDELL Street,
Central , Hong Kong.

Operator: Islamic Republic of Iran Shipping Lines

2.1.2 Manning of “A”

The ship has 26 crewmembers onboard totally this voyage. The vessel was manned in accordance with the requirement of Minimum Safety Manning Certificate. All of the crewmember certificates were on board and in valid. The chief officer was on duty when the accident happened.

2.1.3 Ship 's certificate and the safety manage system

DOC certificate were issued by HONGKONG MSA on Feb 18, 2009 to the company (Certificate NO.: DB10908167). The certificate is in valid until Nov 29, 2011. SMC certificate were issued by HONGKONG MSA on Feb 27, 2009 to the ship (Certificate NO.: DB10908178). The certificate is in valid until July 26, 2012.

All the ship's statutory certificates are intact and available (refer to appendix 3).

2.1.4 Ship 's PSC inspection

Vessel "A" latest PSC inspection had completed in Rostock, Germany on Aug 29, 2008. 19 defects had inspected and all of them had corrected.

2.1.5 The introduction of Ship 's navigation instruction

NAME	TYPE	REMARK
RADAR NO.1	RACAL-DECCA	MAX RANGE:96 NAUTICLE MILES
RADAR NO.2	NUCLEUS 3/KELVIN HUGHES	DAMAGED
AIS	SAAB	
NAVTEX	NCR300A/JRC	
VHF/DSC	SAILOR DSC RM2042	
GPS NO.1	FURUNO GP-80	
GPS NO.2	KGP-913/KODEN	
GYROCOMPASS	TG-9000/TOKYOK	ERROR: $\pm 1^\circ$

2.1.6 Ship 's VDR data analysis

The investigator had not found the ship 's radar data from

VDR (The portside radar which connected to VDR had damaged). The two ship 's VHF communication record had not been found, but the AIS record had been found.

2.2 Vessel “W”

2.2.1 General Introduction of vessel “W”

Name: WEN YUE

Former Name: HUA TONG 2

Nationality: Belize

Signal Letters: V3DR2

IMO No.: 8989642

Registry NO.: 470520015

Hull materials: Steel

Type of Vessel: General Cargo Ship

Year and Place Built: 1993, Fuzhou, China

Classification Society: IBS

L.O.A: 75.47 meters

Breadth: 11.5 meters

Mould Depth: 6.8 meters

Gross Tonnage: 1486t

Net Tonnage: 849t

Deadweight: 2500t

Main Engine Power: 1000KW

Ship speed: 10 knots

Ship Owner: WIN SHINE INTERNATIONAL SHIPPING LTD

Ship Operator: DL EAST SHIPPING CO LTD

2.2.2 Manning of “W”

There were 8 crewmembers onboard totally the voyage. The vessel was manned in accordance with the requirement of Minimum Safety Manning Certificate.

2.2.3 Ship 's certificate and the safety manage system

DL EAST SHIPPING CO LTD registered in 2003 in VIRGIN ISLAND (belong to England). The company main business were vessel management.

DOC certificate were issued by Belize Administration on Feb 20, 2009 to the company (Certificate NO.: DOC2168). The certificate is in valid until Jan 26, 2010. SMC certificate were issued by Belize Administration on Feb 20, 2009 to the ship (Certificate NO.: SMC2524). The certificate is in valid until July 19, 2009.

All the ship's statutory certificates are intact and available

2.2.4 Ship 's PSC inspection

Vessel “W” latest PSC inspection had completed in Pohang, Korea on Feb 05, 2009. 9 defects had inspected and all of them had corrected before voyage.

2.2.5 The introduction of Ship 's navigation instruction

NAME	TYPE	REMARK
RADAR NO.1	AR-M112K-1006	
RADAR NO.2	RA725UA-04	
AIS	UAIS S1-10	
NAVTEX	NR-1	
VHF	IC-M59	
VHF	RU-244A	
GPS	GPS-128C	
EPIRB	EB-10	
GYROCOMPASS	ES-11	

2.2.6 Ship 's cargo stowage and lashing

Vessel “W” had loaded 2439.714 tons of steel on board which used for shipbuilding with fore draft 4.2m and aft 5.0m this voyage. During the loading, the cargo had been lashed by Qinhuangdao port lashing Company which had been

confirmed by the captain of vessel “W”.

3. Environmental condition

3.1 Weather and sea conditions

The visibility was about 20 meters due to dense fog and the sea condition was slight breeze and gently wave when the accident happened.

3.2 The Traffic and Communication Environment of the accident waters

The collision position is about 23 nautical miles to the north of Jingzitou, Weihai of P.R. China, which locates the habit fairway of ship entering and leaving Bohai Sea with vessel traffic flow intensively.

4. Evidence

4.1 Confirmation of the collision relation between vessel “A” and vessel “W”

Vessel “W” AIS data recorded by vessel “A” VDR displayed that the two ships position were almost same at around 37seconds 0724 hours, May 02. At the same time, Vessel “W” AIS signal disappeared. Vessel “W” had been explored under 42

meters depth waters. The chief officer of vessel “A” who was being on duty admitted that the ship had collided with other ship at that time.

As conclusion, at around 0724 hours LT May, 02, vessel “A” had collided with vessel “W”.

4.2 The collision time confirmation

From the chief officer on duty of vessel “A” statements, the ship had a severe shake when the accident occurred at around 0724 hours May 02. Vessel “A” AIS data displayed that the ship heading and speed had been changed suddenly(heading: 290°, speed: 8.7 knots) at 37 seconds 0724 hours May 02, 2009, but before that the ship kept course and speed(heading: 305°, speed: 11.7 knots). The change was ought to leaded by the collision.

Vessel “A” VDR data displayed that the two ship distance was about 56 meters (the distance is between two ship AIS antenna) at around 37 seconds 0724 hours. Then Vessel “W” AIS data disappeared.

As a result, with considering the AIS data lag characteristic, the investigator adopted the collision time as 0724 hours May 02.

4.3 The collision position

The investigation team adopted the collision position as Vessel “A” AIS data displaying (GPS data: Lat 37°51'.5N, Long 122°24'.4 E).

4.4 The collision angle

Data recorded by Vessel “A” AIS and VDR showed that the Vessel “A” heading was 305° and vessel “W” heading was 170° when the accident occurred. It was confirmed that vessel “W” had broken into two parts with about 22 meters length of the bow part by detecting under water.

It was found that vessel “A” port and starboard bow had been scratched and bumped after inspection and detecting under water. There was a hole in the starboard side of bulb bow.

As the result, two vessels collided with each other on almost 45° angle, the bulbous of “A” bumped into the port side bow of vessel “W” which caused vessel “W” crashed two parts and sunk immediately. Then vessel “A” navigated above that (refer to annex 6).

5. Narrative

The details of the accident below are based on the

statements of the chief officer and sailor on duty and the recorded AIS and VDR information of vessel “A”(refer to annex 7). The time in this report is Beijing time unless otherwise stated, and the ship position, course and speed are from the AIS recorded data of the two ships. Vessel “W” AIS data was read from VDR of vessel “A”.

5.1 Vessel “A”

At 1130 hours of May 01, 2009, “A” sailed from Lianyungang port China bound for Tianjin port China with ballast 12400tons waters a draft of 4.2 m foreword and 7.2 m afterward.

At 0355 hours of May 02, 2009, the chief officer took over the duty and checked auto steering gear and navigational equipment which were in good working condition, course 000°, speed 11.7 knots, AIS in good order, starboard side radar in working and a sailor was helping to look-out, the visibility 5nm, sea condition gentle wave.

At about 0610 hours, ship’s course 311°and speed 11.7 knots. The visibility became worse and about 20m. The chief officer altered starboard radar range to 6NM, then called the captain.

At about 0615 hours, the captain came to the bridge and inquired chief officer whether going on keeping watch, he answered that no problem for keeping watch.

At about 0620 hours, the captain left bridge and chief officer kept watch through starboard side radar with keeping course and speed. The sailor on duty helped to look-out.

At about 0724 hours, the chief officer on duty had a feeling the ship a violent shake which continued about 5 seconds. The sailor found there were two lifeboats floating on starboard side. Then C/O judged that the ship had collided with a fishing boat (collision angle and place not in detail), so reported to captain.

5.2 Vessel “W”

At about 1000 hours of May 01, 2009, “W” sailed from Qinhuangdao port China bound for Ulsan port Korea with loading 2439.714tons steel plates and a draft of 5.0 m foreword and 5.3 m afterward.

At about 0700 hours of May 02, “W” navigated with course 120.7° and speed 9.8 knots.

At about 0711 hours, the ship kept course and speed.

At about 0717 hours, the distance between two ships was about 2.82 nm and DCPA was less than 0.5 nm, then changed

course to starboard for ten degrees. So the course was 129.2° and kept speed.

At about 0719 hours, the distance between two ships was about 2.07 nm and she altered her course to starboard side with small angle at 5 to avoid collision. The course changed to 135.3° and kept speed.

At about 0721 hours, the distance between two ships was about 1.32 nm and she altered her course to starboard side with small angle at 5 to avoid collision. The course changed to 140.2° and kept speed.

At about 0723 hours, the distance between two ships was about 0.66 nm and she altered her course to starboard side with small angle at 5 to avoid collision. The course changed to 144.1° and kept speed.

At about 0724 hours, the collision accident happened with vessel “W” heading about 170° .

6. Search and Rescue

Office of Research and Rescue immediately launched the emergency preplan and carried out search and rescue of lift at sea upon reception of alarm message at 08:06 am, May 2nd. 8 rescue ships including “Beihai Rescue No.112”, “Haixun

No.731”, “China Fishery Administration No.37508” and 1 airplane were dispatched for search and over 30 passing vessels were coordinated to search the missing vessel. At the same time, full efforts were made to examine relevant information, repeated check and analysis of AIS video of nearby vessels were performed when fishery vessel were investigated. Moreover, professional institutions were requested to carry out sea scanning and underwater exploration on the accident water area and it was finally determined the vessel named “WEN YUE” of Belize was the missing vessel.

7. The consequence

The bulb bow of Vessel A was found with broken holes and irregular collision track was visible on the right and left side of the bow of the vessel. Vessel W was found sunk and one of the eight crews was dead, the other seven crews were missing.

Fuel quantity carried by Vessel W when it sank is approximately 59.93 tons and the oily sewage is about 0.55M³. The accident caused leakage of oily sewage and part of fuel. By 12 o'clock June 25th, 8.7 tons of oil have been recovered; (please refer to annex 8 for details) other economic loss and pollution damage on ocean environment caused by the collision

accident are under further investigation and confirmation.

8. Analysis

The International Regulations on Prevention Collision at Sea of 1972 (hereinafter referred to as the “Regulations” and STCW78/95) Convention are applicable to the case that the two power-driven vessels sailed in poor visible waters.

After the collision, Vessel W sank immediately (all crew members were dead or missing). Causes of accident have been analyzed only on the basis of narration of crews of Vessel A, Both vessels’ AIS data were obtained from VDR of Vessel A.

8.1 Vessel “A”

8.1.1 Severe negligence of look-out

Vessel “A” failed to observe regular look-out and did not discover Vessel “W” when encountering with it, nor did it take all available measures such as AIS to make adequate estimation on the situation and risks of collision. Vessel “A” was deemed as breach of Rule 5 and Provision 1 of Rule 7 of the Regulations.

8.1.2 No adoption of any collision avoidance measure

Vessel “A” did not take any avoidance actions through out

the encountering with Vessel “W” as it failed to observe regular look-out, which violated Provision 1 and Provision 5 of Rule 8 and Provision 3 of Rule 19 of the Regulations.

8.1.3 No adoption of safe navigation speed

Vessel “A” did not stand by engine for immediate maneuver of engine at the visibility of 20 meters and went forward at full speed of about 11.2section, which violated Rule 6 and Provision 2 of Rule 19 of the Regulations.

8.1.4 Failure to comply with related regulations on navigating in fog

Under the condition of poor visibility, Vessel “A” did not provide signal siren as requested by the Regulations, which violated Rule 35 of the Regulations. Captain of Vessel “A” did not present on bridge under the condition of poor visibility, which was not in conformity with the ordinary practice of seaman.

8.2 Vessel “W”

8.2.1 Adoption of a series of small angle avoidance actions of turning right

Vessel “W” adopted a series of small angle avoidance actions of turning right when there was about 3 sea miles between the two vessels and the accumulated angle of turning right was only about 25 degrees, which violated Provision 2 of Rule 8 of the Regulations.

8.2.2 No adoption of safe speed to navigation

Vessel “W” went forward at full speed of about 9.8 knots under the visibility of 20 meters, which violated Rule 6 and Provision 2 of Rule 19 of the Regulations.

9 Causes of Accident

9.1 Direct causes

When the risk of collision exists between two ships, vessel “A” did not keep proper look-out, no discovering the ship in ahead, any action had not been taken to avoid collision. That were the direct causes of the close quarters situation forming and the collision accident happening.

When the DCPA was less than 0.5nm, vessel “W” had adopted of a series of small angle avoidance actions of turning right, not verify the measure effect until she was finally past and clear. That were the direct causes leading to the collision accident happened.

9.2 Indirect causes

The visibility was about 20 meters only at sea when the accident happened. That were the indirect causes leading to the collision accident happened. Vessel “A” not complying with the regulations of navigation in fog also was one of the indirect causes.

10. Recommendations

050000SR200903: HONGKONG MARDEP should carry out an additional survey on M.V. “A”, especially on the running effect of ISM.

050000SR200904: Win Shine International Shipping Ltd should enhance the measures to maintain the ships life raft and EPIRB .

11. Appendix: Diagram of collision

Diagram of collision

