

**Report on the Investigation
of the collision between M/V M.KIMITSU and
JINTANG Bridge
on Nov. 16 2009**

Maritime Safety Administration of People's Republic of China

June 12 2010

NOTE

This report is written with identification and reduction of maritime traffic safety-related risk in prevention of similar maritime casualty recurrence, thus all the evidence and statements sourced from this report shall not be accessed to any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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Glossary of Abbreviations and Acronyms

AIS - Automatic Identification System

PSC-Port State Control

PSCO- Port State Control officer

GPS - Global Positioning System

HAT - High Astronomical Tide

IMO - International Maritime Organization

SOLAS - Safety of Life at Sea Convention

VHF - Very High Frequency

DOC-Documents of Compliance

SMC-Safety Management Certificate

SMS- Safety Management System

RMB-Chinese ¥

AB-Able seaman

MOC-Ministry of Communication

CCTV-Center Control Television

1. Summary

1.1 The Accident

At about 1524hrs on Nov.16 2009, M/V M.KIMITSU, a Korea registered general cargo ship, collided with the JINTANG Bridge due to dragging anchor at the north side of JINTANG Bridge which was caused by the influence of strong wind and current. As a result, M/V M.KIMITSU was broken and flooded, E31 and E32 piers of JINTANG Bridge was partly damaged. M/V M.KIMITSU eventually beached at ZHENHAI NO.18 berth Ningbo port; total 12 seafarers on board were rescued safely.

1.2 The Investigation

After the accident occurred, China MSA immediately organized an Investigation team group to carry out the investigation into the accident. The following evidences were collected by the investigation team through investigating the seafarers, the agents, the company and the other related persons, as well as checking the documents of the ship, ship's crew and on site Inspection.

- .1 Twenty-one copy of enquiry records
- .2 Copies of accident report, deck logbook, engine logbook, bridge bell book and voyage plan.
- .3 Copies of DOC, ship registered certificate, ship safety management certificate, ship safety manning certificate, ship inspection certificate.
- .4 Copies of crew list and the competence certificate of seafarers.
- .5 Related data of Ship Company and ship Agent Company.
- .6 Copy of AIS device inspection report.
- .7 PSC inspection record in 2009.

- .8 Navigational publications and chart on board the ship.
- .9 AIS record of accident water area.
- .10 Ship's damage surveyor report.
- .11 Ship's damage assessment report.
- .12 Expert's appraisal of the Bridge construction damage.

2. Ship, seafarers and the company

2.1 Ship's Particulars

2.1.1 Ship's Main Technical Data and Status

Ship's name	M.KIMITSU
Flag state/ Port of registry	Korea /Jeju island
Call sign	DSPQ2
IMO number	9204910
Ship type	General cargo
Construction	steel
G.T.	2080
N.T.	951
Length Overall	81.74 m
Breadth moulded	13.50m
Depth moulded	6.40m
Main engine power	2059 H.P.
Date of keel laid	1992.05.04
Year of built	1993.6
Manufacturer/address	Hanryeo shipbuilding CO.,LTD/ Chungmu, Korea

Owner/address	Sung je shipping CO.,LTD /Cygnus bldg,7,Mugyo-dong,Jung-gu,seoul,repulic of Korea .
Operator/address	ASIA,BULK SHIPPING CO.,LTD
	12F,BANDO BUILDING,#36 jungang-dong, jung-gu, busan, Korea

According to the ship's blue plan, the height from keel to the highest of foremast is 18.8m; the height from keel to the highest of mainmast is 23.6m.

2.1.2 Ship's certificating

M/V M.KIMITSU holds the certificate of registry and Minimum Safety Manning Certificate issued by Korea Authority. She also holds the classification certificate and ship inspection certificate, as well as DOC and SMS certificates issued by Korea classification society. In brief, the certificates are all in validity as required.

2.1.3 Ship AIS Device invalid Situation

The ship AIS device did not obtain inspection report as a result of annual inspection failure in 2009. As told by the captain, AIS device was found not working on Nov.10 2009 in Japan, and the situation was reported to the company by the captain himself. During loading cargo at Pohang Korea on Nov. 13 2009, the AIS device was repaired and reported to the captain. But intermission failure of the AIS device was still found in the next voyages, and the captain reported to the company again. As shown on the inspection report issued by Ningbo HONGZHOU electronic technical company on Nov.19 2009, that the ship AIS antenna test invalid, the GPS built-in AIS receiver shutter failure leading the GPS built-in AIS can not make orientation, so that the AIS emission signals lack of ship's position information, as a result, the other ships can not identify M/V M.KIMITSU'S position.

2.1.4 Charts

Nautical Charts were not up-to-date and valid .The chart(Chart number 1124) used in this voyage was old edition of 2006. The new edition of 2008 was not equipped on board, which did not meet with Article 27.Chapter 5. of SOLAS. The said chart was amended to NO. 2543 Notice to Mariners of 2008, thereafter at least 20 related Notice to Mariners had not been amended during 2008 and 2009,which could not comply with company's safety management system and SOLAS relative regulations.

2.1.5 PSC Inspection

On Jan. 29 2009 M/V M.KIMITSU obtained the PSC inspection in Japan, four deficiencies, including voyage plan problems and the deck officers not familiar with voyage preparations, were found. The said four deficiencies were reinspected satisfactory by PSCO on the April 6, 2009 in the NAKHODKA Russian. On Sep. 7 2009, the ship was inspected by PSCO of VLADIVOSTORK Russian, 16 deficiencies were found, which including AIS navigation data not updated, the problem of radio equipment reserving power, navigation publications not updated and so on. The said 16 deficiencies were also rechecked satisfactory by PSCO on Oct.14 2009 in KAKHODKA Russia. The above mentioned two PSC report shows that there were some problems existed on board, such as the voyage plan was not fully prepared , AIS device or other key equipments were not maintained adequately and appropriately.

2.2 Ship Crew

M/V M.KIMITSU is manned with 12 crewmembers this voyage, except the third officer is Indonesian, the captain and the other senior officers are Korean. The rest of crewmembers are Burmese. The requirements of Minimum Safety Manning Certificate are matched.

When the accident happened, the major crews were listed as follows:

The captain, CHOI,NOK YUN, male, born on Jan. 11 1939, holds the master's degree of non-restricted water below 6000GT with number BS-D2-09-0539 issued by Korea authority on 11 December 2009,which remains valid till Sep. 10 2014. This is the first voyage for the captain to Ningbo port. When the accident occurred, the captain was in charge of command on the bridge.

The 2nd mate, BAE SANG EUN, male, born on Aug. 13 1956, holds the chief officer's certificate of non-restricted water area below 6000GT with number PH-D3-09-0033 issued by Korea authority on Dec. 11 2009, which remains valid till Dec. 8 2014. This is also the first voyage for the 2nd mate to Ningbo port. When the accident occurred, he was on duty on the bridge.

3. Other relative concerning

3.1 Ship agent

On Nov.4 2009, M/V M.KIMITSU assigned NINGBO TONGSHENG SHIPPING COMPANY, founded in Feb.2008, as her agent to handle the relevant formalities of ship's entry and departure.

The business of NINGBO TONGSHENG SHIPPING COMPANY is mainly on handle entry and departure for ships, issue B/L, transportation contract, demurrage and dispatch money agreements, and supply storage for ships.

At 1733hrs on Nov.5, the captain received port guidance from agent, which enumerated the requirements of enter report, care the safety and strong current while at anchor, contact manner and etc. All the information did not include the forbidden navigation area, forbidden anchor area and the latest position of maritime buoyages surround the JINTANG Bridge area as regulated by THE SAFETY SUPERVISION FOR JINTANG BRIDGE AND XIHOUMEN BRIDGE NAIVGATION CODE, which was come into force on Apr. 1 2009.

3.2 The pilotage

On Nov.9 2009, the agent submitted the berthing plan of M/V M.KIMITSU to port duty office and applied for pilotage. As showed by the plan, M/V M.KIMITSU will berth Samsung industry wharf at 1200hrs on Nov.16. The berthing plan postponed to 1315 hrs on Nov.18 due to the bad weather. When the allision happened, the port duty office did not arrange the pilotage for M/V M.KIMITSU.

3.3 JINTANG Bridge

3.3.1 The guard ships of the Bridge headquarter

The Bridge headquarters equipped six guard ships for bridge area emergency safeguard. When the allision happened, the said six guard ships did not patrol in the assigned area due to the bad weather.

3.3.2 Establishment of bridge anti-collision

As regulated by ‘The Approve of Air Height and Technical Requirement of ZHOUSHAN Island Connection Project ’ issued by MOC, the bridge owner should construct bridge pier anti-collision establishments. But the constructive anti-collision appliance did not set up.

3.3.3 Safety guard measurement of the bridge at sea

The risk of allision with the bridge in case of the outburst of main engine failure shall not be resolved in time because there was no big power tugs surround the bridge area. Meanwhile, there was also no any CCTV devices surround the bridge area, bridge owner’s self patrol system was not founded as well.

4. Weather and sea condition

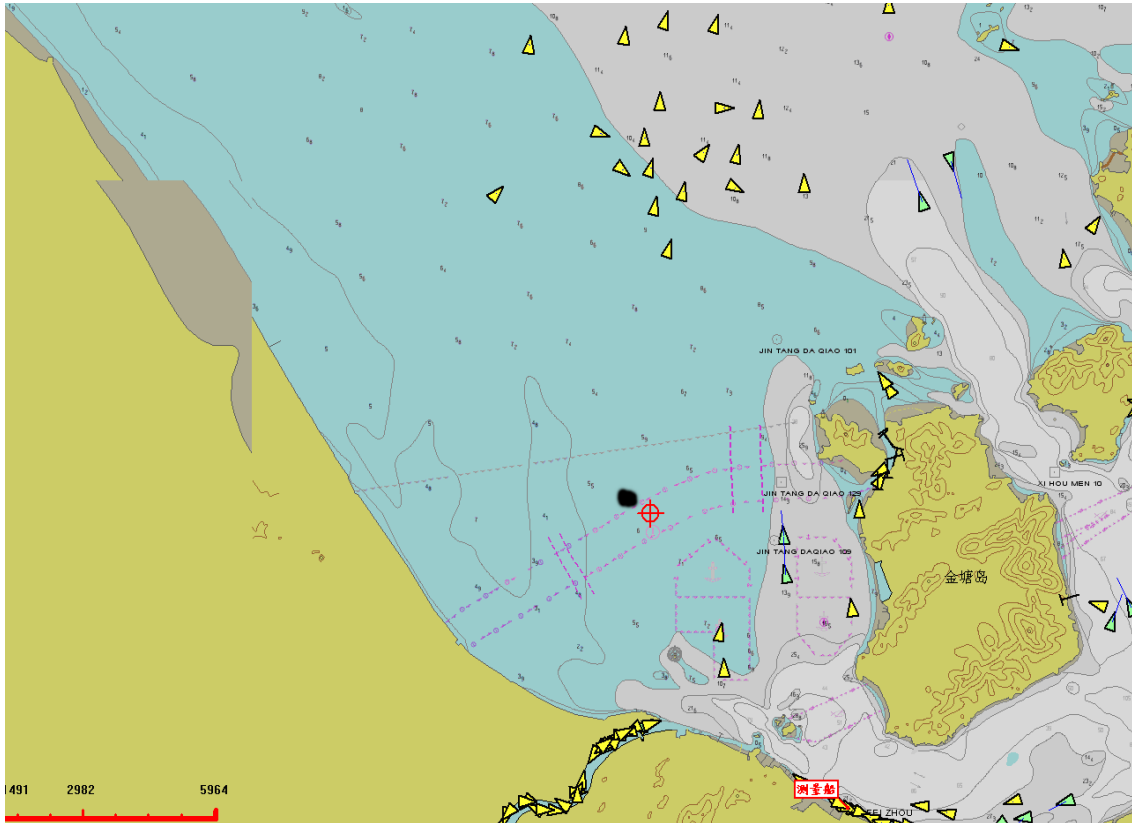
The accident happened in Sep. 30 in Chinese Lunar Calendar, and the tide close to

HAT. It was about 2.5 hours after DINGHAI High Water when the ship dropped the anchor, and the current was about 2 knots with northerly direction. At the time of accident happened, it was about 5 hours after DINGHAI High Water, while the current was about 3 knots with southerly direction, and the North to Northeast wind force was about 8 to 9 in Beaufort scale. The visibility was moderate with visible distance about 3 to 4 Nautical miles.

5. The environment condition surround the anchor position

The water area near the anchor position, located in the north side of JINTANG Bridge, was open area with mud bottom and 6 to 9 meters depth on chart. While the depth of M/V M.KIMITSU's anchor position assigned by captain was 6.8 meters on chart, and the nearest distance to the Bridge was about 1 Nautical miles. The anchor position locates in the anchor forbidden area.

The follow sketch based on AIS view map shows the anchor position of M/V M.KIMITSU.



6. Narrative of the accident

At about 1900hrs on Nov.13 2009, M/V M.KIMITSU departed from Pohang Korea bound for Ningbo China laden with 3000 tons of steel on board.

At about 1528hrs on 15, M/V M.KIMITSU was informed by her agent to drop anchor out of the JINTANG Bridge and wait for pilotage because of no berthing plan yet.

At about 1203hrs on 16, M/V M.KIMITSU, with fore draft 4.6 meters and aft draft 5.5 meters, did not report to Ningbo VTS when she passed Report Line L4.

At about 1230hrs, M/V M.KIMITSU arrived at the position 30°04'.2N/121°45'.0E, northern side of the JINTANG Bridge with the nearest distance about 1 Nautical mile, and dropped her starboard anchor with 4 shackles in water. After dropping anchor, the

main was finished, and the anchor position was plotted on chart but not recorded on Logbook. While at anchor, the 2nd officer was on duty on the bridge and the 2nd engineer was on duty in the engine room.

At about 1450hrs, the 2nd officer considered the own ship was dragging anchor when he found that the distance to the Bridge reduced to 0.6 Nautical miles, and he reported to the captain immediately, instructed two sailor as named YE WIN NAING、PYI NYEIN SOE run to the bow to let go one more shackle as well.

At about 1452hrs, the captain got on the bridge and took over the hand of command. He pushed the emergency button to remind all the crew the emergency situation, at the mean time he ordered chief mate standby for heaving up anchor and asked the 2nd officer to inform the engine room standby main engine.

At about 1454hrs, the 3rd mate and one AB as named AUNG MIN LWIW got on the bridge one after the other. From then on, the 2nd officer took in charge of the telegraph, the 3rd mate assisted lookout and the AB took in charge of steering, while the chief engineer and 3rd engineer arrived in the engine room as well.

At about 1500hrs, when the main engine got standby, the captain ordered heaving up anchor and dead slow ahead. During heaving up anchor, he used the telegraph frequently.

At about 1522hrs, when the anchor made clear off bottom, the captain ordered to full ahead. At that time, the distance from the own ship to the Bridge reduced to 200 meters approximately.

At about 1524hrs, the shell plate of engine room hull in starboard side scratched E32 pier of the JINTANG Bridge, the captain ordered to stop engine while the ship's heading was 060° at that time. Then the ship body swirled to starboard side due to the current and wind influence, and the bow closed to E31 pier of the Bridge gradually. Subsequently, the starboard side of bow collided with E31 pier of the Bridge, and the ship body sat astride on E31-E32 pier (the distance was 60 meters between the said two piers), and the starboard side hull scratched and contact the Bridge pier timely

caused foremast and mainmast broken. During that period, two ordinary sailors and one oiler jumped to E32 pier plate from own ship's stern.

At about 1528hrs, M/V M.KIMITSU called for help through VHF "ship sinking, salvage needed", but did not notify the ship's name and ship's position and etc. At the mean time, she reported the situation to the company.

After then, the bow turned to right due to the influence of current and wind. At about 1530hrs, the ship passed over the Non-Navigation hole between E31 and E32 pier.

At about 1645hrs, the ship beached at the position 29°59'.3N/121°42'.4E near NO.18 berth ZHENHAI port Ningbo.

7. Consequences

M/V M.KIMITSU's hull was broken and water flooded. The vessel and the cargoes loaded sunk together after beaching. E31&E32 piers of JINTANG Bridge was partly damaged. The direct economic damage of this accident was over 3,000,000 RMB.

8. Analysis

8.1 The direct causes

M/V M.KIMITSU didn't renew the marine charts and relevant materials of the voyage on time leading to choose the anchoring position incorrectly, drop anchor illegally. Furthermore, she did not let go enough shackles in water without main engine standby under the condition of strong wind and current, and she didn't take proper measures after dragging anchor. The faults mentioned above were the direct causes of this accident.

8.1.1 Illegally anchoring and incorrectly choosing the anchoring position directly and immediately resulted in the close-quarter situation between the ship and the Bridge

piers after dragging anchor.

The vessel violated the Navigation Safety Regulations of JINTANG Bridge and XIHOUMEN Bridge to drop anchor in the anchor forbidden area only 1 Nautical mile north side of JINTANG Bridge. After dragging, she rapidly approached the bridge under the influences of strong wind and current, that extremely limited the time and space for her to take measures to avoid allision.

8.1.2 The influence of strong wind and current where and when the accident happened was not took into account sufficiently by the captain. As a result, there was not enough shackles let go and the engine room was not informed to keep main engine standby.

The day of the accident was 30th September in Chinese Lunar Calendar, and there was an astronomical high tide. At the time when the accident happened, the dashing ebb made a northern current with 3 knots velocity, and added in the effect of 8-9 northerly wind's force. All the said external elements made it easy for a ship dragging anchor. While the captain didn't take it into account extremely leading to let go only 4 shackles in water, resulting in dragging anchor. Furthermore, the captain didn't require the main engine be kept standing while at anchor pursuant to the regulations of company's SMS documents. All the said fault caused the vessel couldn't immediately use the main engine to control the dragging speed efficiently and made the close-quarter situation formed rapidly.

8.1.3 The captain took improper emergency measures after dragging, that has caused the vessel losing the last opportunity to avoid allision.

After getting in the bridge, the captain didn't correctly figure out the formed urgent situation. As a result, he gave the order to standby main engine urgently, but not take more proper measures such as drop the port anchor and etc. Furthermore, the captain did not require main engine full ahead to control the dragging speed in time after the main engine standing by. Instead, he chose to heave up anchor in the improper time leading to the dragging speed increasing due to the anchor was heaving up and the

anchoring weight on cables reduced respectively. Eventually, the collision happened.

8.2 The indirect causes

The captain had serious faults in executing the safety management system files and bridge resources management files. It was the indirect causes of this accident. By investigating, the past Japan and Russia PSC inspection both figured out the vessel has had serious faults in managing bridge resources. But the captain didn't pay enough attention on it. The main reason of the vessel anchoring in anchor forbidden area was the chart hasn't been renewed timely. Besides, the vessel didn't require the agent to arrange repairing the AIS device when arrived at Ningbo port, also indicating that the captain took this device into account.

9. Conclusion

The following contributing factors in respect of M/V M. KIMITSU are identified:

9.1 Illegally anchoring;

9.2 Incorrectly choosing the anchoring position;

9.3 Didn't let go enough shackles under the influence by strong wind and current;

9.4 Didn't keep main engine standing by;

9.5 Took improper measures after vessel dragging anchor.

10. Lessons and recommendations

10.1 Dropping anchor is recognized as a crucial operation in navigation field, and each captain should pay high attention on it and very carefully conduct it. Especially

when the captain reached a strange port first time, he should prepare sufficiently and collect all relevant information such as weather, sea condition, and local regulations. The anchoring position should be far away from bridge and other sea surface constructions, and the crew should be supervised to strengthen look out, keep on high alert in bad weather as well as the main engine kept standing by. When the emergency occurred, the crew should calmly react and ensure safety first.

10.2 Shipping company should strengthen the vessel's safety management and Shore-based support, superintend the maintenance of the vessel's crucial equipments, choose the qualified captain to ensure the navigation safety, and provide the latest navigation charts, books, and technical support, then make sure that the captain fully use them.