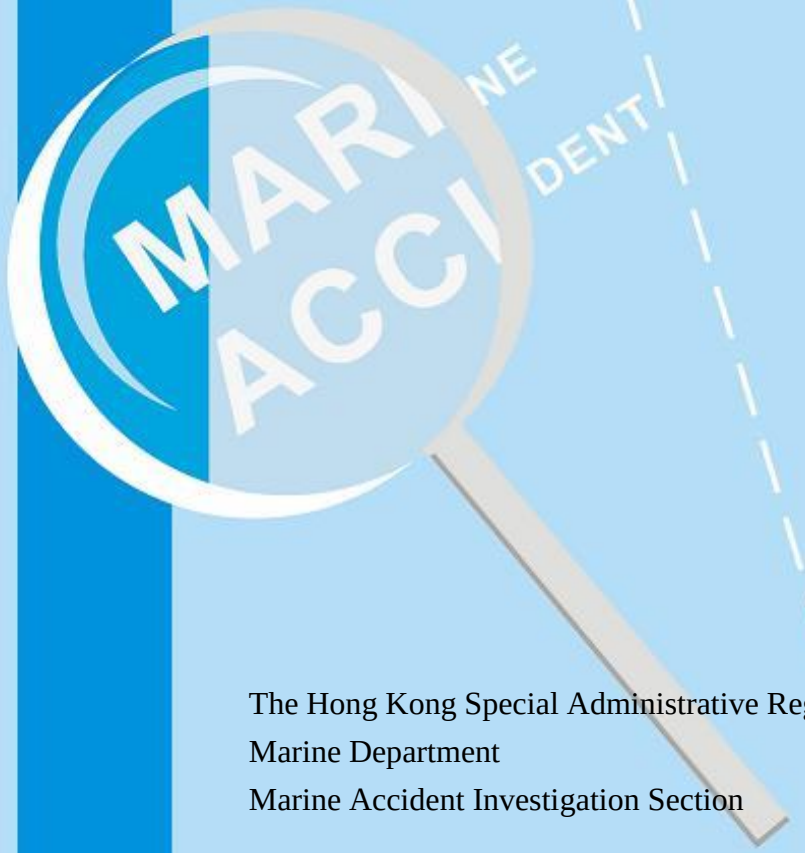
Report of Investigation into the fatal accident on board Hong Kong Registered Ship "*GENCO SUGAR*" at Puerto Montt, Chile on 05 March 2015.



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

11 March 2016

Purpose of Investigation

This incident is investigated in accordance with the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (the Casualty Investigation Code) adopted by IMO Resolution MSC.255(84).

The purpose of this investigation conducted by the Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) of Marine Department, in pursuant to the Merchant Shipping Ordinance Cap. 281, the Merchant Shipping (Safety) Ordinance (Cap. 369), the Shipping and Port Control Ordinance (Cap. 313), or the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), as appropriate, is to determine the circumstances and the causes of the incident with the aim of improving the safety of life at sea and avoiding similar incident in future.

The conclusions drawn in this report aim to identify the different factors contributing to the incident. They are 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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1. Summary

1.1 On 28 February 2015, the Hong Kong registered bulk carrier "GENCO SUGAR" (the *vessel*) was berthing in Puerto Montt, Chile to discharge cargo "UREA" in bulk. The cargo operation was completed at 1735 on 5 March 2015 and the *vessel* was prepared for sailing.

1.2 The second officer was seen going down the portside gangway and subsequently walking along the pier towards the *vessel*'s bow. At 1745, he returned back to the *vessel* and walked through the cross deck passage in way of No.5 cargo hold aft to the starboard side of the *vessel*. After that, no one saw him again.

1.3 At 1750, the third officer arrived at the portside gangway to relieve the second officer, but the latter did not show up even upon calling him by means of the public address system. Searching of the missing person was launched, but in vain.

1.4 At about 2010, police found his dead body floating in water at about 600 meters away from the forward of the *vessel.*

1.5 There was no witness of the accident. On the day of the accident, it was cloudy, gentle breeze and slight sea. The vessel was securely moored to the berth. There was no evidence showing that the death of the second officer was due to criminal act or suicide.

1.6 It was deduced that the second officer fell overboard while he was reading ship's draught marks on the starboard side of the *vessel* before sailing.

1.7 The investigation revealed the main contributory factors as follows:

a) the deck surfaces were slippery due to rain water mixing with the water soluble cargo "UREA" scattered on deck and deck fittings during cargo operation; and

b) the safety awareness of the second officer was inadequate and was manifested in the follows:

(i) he worked alone without informing other crew members, thus rendered his missing not being aware by others; and

(ii) he did not follow the relevant shipboard safety procedures and probably even the permit to work system for person working over the ship side.

2. Description of the vessel

2.1 Particulars of "GENCO SUGAR"

Port of Registry	:	Hong Kong
IMO Number	:	9191034
Official Number	:	HK-0732
Call Sign	:	VRXE8
Classification Society	:	American Bureau of Shipping
Type of Ship	:	Bulk Carrier
Keel Laid	:	10 January 1998
Built At	:	Oshima Shipbuilding Co.,Ltd. Japan.
Ship Owner	:	Genco Sugar Limited
DOC Company	:	Wallem Shipmanagement Limited. Hong Kong
Length	:	163.04 metres
Breadth	:	27 metres
Depth	:	14.10 metres
Gross Tonnage	:	18,036
Net Tonnage	:	10,227
Deadweight	:	29,952
Main Engine	:	one set of Kawasaki MAN B&W 6S 46MC-C Engine (Japan)
Engine Power	:	6,303 kW
No. of Crew	:	22

Fig 1: M.V. " *GENCO SUGAR"*

3. Sources of Evidence

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

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

c) Preliminary report from P&I Club of the *vessel*

d) Medical death certificate

4. Outline of Events

(All times were local time GMT - 3hours)

4.1 On 28 February 2015, the Hong Kong registered bulk carrier "GENCO SUGAR" (the *vessel*) was berthing port side alongside pier no.2 of Empormontt Terminal in Puerto Montt, Chile to discharge bulk cargo "UREA".

4.2 On 5 March 2015 at about 1735, the cargo operation was completed. The *vessel* was preparing for departure.

4.3 A duty seaman, who was keeping gangway watch at the port side of the *vessel*, saw the second officer (the 2/O) going down the portside gangway and subsequently walking along the pier towards the bow of the *vessel*. He was not told by the 2/O about the purpose of his movement to the pier. Since the *vessel* was preparing for sailing, it was possible that the 2/O went to check the ship's forward draught marks before sailing.

4.4 At about 1745, the 2/O returned back to the *vessel* and he was seen immediately walking through the cross deck passage in way of No.5 cargo hold aft to the starboard side of the *vessel*. After that, no one saw the 2/O again.

4.5 At about 1750, the third officer arrived at the portside gangway to relieve the 2/O from deck watch. The duty seaman and the third officer called the 2/O through portable radio, but no response was obtained. The third officer reported to the master. The master used the public address system to call the 2/O.

4.6 About 5 minutes later, the master ordered the chief officer to conduct a search on board for the missing 2/O. The crew searched the main deck and looked for any sign of the 2/O in the water around the *vessel*. The crew also went to the pier for the search. The cargo terminal was also asked and it was confirmed that the 2/O did not go outside the gate of the terminal.

4.7 At about 1915, the master informed the ship agent and asked for assistance to call the police. At about 2010, the ship agent informed the master that a dead body was found floating in water at about 600 meters away from the forward of the *vessel* (Fig.2).

4.8 At about 2028, the master and some crew members went to the spot where the body was placed and they identified that it was the missing 2/O.

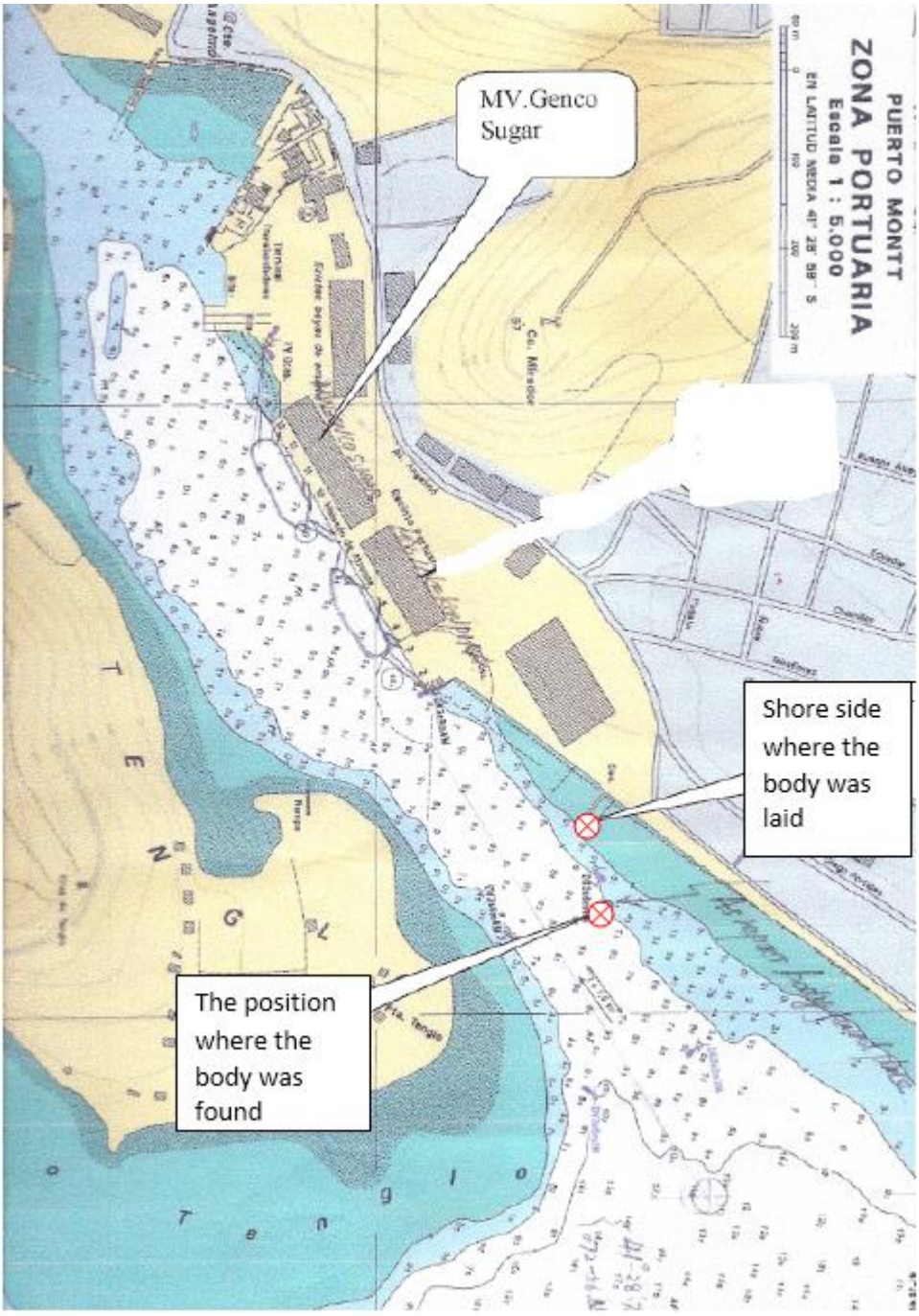

Fig. 2: the relative positions of the vessel and the body of the second officer

5. Analysis

Manning of the vessel

5.1 The *vessel* was manned by a total of 22 mainland Chinese crew. The Minimum Safe Manning Certificate required a minimum of 16 crew numbers.

5.2 The master had served as a shipmaster for more than 5 years. He possessed a Certificate of Competency as a master on ships issued by the People's Republic of China valid until 9 June 2019, and a Class 1 License (Deck Officer) issued by the Hong Kong Marine Department on 26 November 2014. He signed on the *vessel* as a master about 3 months before the incident happened.

5.3 The chief officer had served as a chief officer for more than 4 years. He possessed a Certificate of Competency as a master on ships issued by the People's Republic of China valid until 12 May 2019, and a Class 1 License (Deck Officer) issued by the Hong Kong Marine Department on 19 August 2014. He signed on the *vessel* as a chief officer about 6 months before the incident.

5.4 The second officer (2/O) had served as a second officer for less than 2 years. He had experience working as an internship chief officer for about 5 months. He possessed a Certificate of Competency as a chief officer on ships issued by the People's Republic of China valid until 16 June 2019, and a Class 2 License (Deck Officer) issued by the Hong Kong Marine Department on 8 October 2014. He signed on the *vessel* as a second officer about 5 months before the incident happened.

5.5 The third officer had served as a third officer for about 1 year. He possessed a Certificate of Competency to work as a third officer on ships issued by the People's Republic of China valid until 10 January 2018, and a Class 3 License (Deck Officer) issued by the Hong Kong Marine Department on 17 February 2015. He signed on the *vessel* as a third officer about 4 months before the incident happened.

Working hours and alcohol abuse

5.6 There was no evidence to show that any crew member on board including the 2/O suffered from fatigue at work.

5.7 There was no indication or evidence of alcohol abuse of the 2/O.

Weather and sea conditions

5.8 On the day of the accident, it was cloudy, gentle breeze and slight sea. As the vessel was securely moored to the berth, the weather and the sea conditions did not contribute to the accident.

The deceased second officer

5.9 Police officers attended on board for criminal investigation and they could not identify

any sign of criminal act in the accident.

5.10 It was found that the 2/O had completed the passage plan for the next voyage before the accident happened. He was qualified to work as a chief officer and had been promised for his promotion subject to the approval by the company.

5.11 The 2/O was liked by his colleague crew members on board. They did not hear from him of any personal or family problem and the 2/O's behavior on board was found normal. The crew commended that the 2/O was having a positive attitude towards his job and life, and therefore he was unlikely to commit suicide.

The autopsy report

5.12 The death certificate revealed that the death of the 2/O was due to asphyxiation subsequent to submersion. No other cause to his death was recorded.

5.13 It was consistent that the 2/O might accidentally fall overboard from the main deck into the water. The height of the fall was about 9 metres above sea level. He may have become unconscious after falling into the water and drowned.

Bulwark and log risers on main deck

5.14 On the port and starboard side main decks, bulwark was fitted throughout the cargo area of the *vessel* except in way of No.5 cargo hold where ship side railings were fitted for the convenience of rigging the embarkation ladders.

5.15 Log risers were fitted on deck beside the bulwark. At the material time, log risers were lowered down, stacked and clung to the bulwark. Under such circumstances, the height of the stacked log risers was slightly lower than the height of the bulwark (Fig.3).

Fig. 3: overboard falling protection

The probable causes of the accident

5.16 No one witnessed the course of the accident and knew why the 2/O fell into the water and drowned. He was last seen by the duty seaman, who was keeping gangway watch on the port side of the *vessel*, walking to the starboard side of the vessel through the cross deck passage in way of No.5 cargo hold aft.

5.17 Since the discharge of cargo had finished and the *vessel* was about to depart from berth, it was possible that, without informing the chief officer, the 2/O was intending to record the ship's draught marks to prepare for sailing. He went down to the pier to read the ship's draught marks on the port side. As the *vessel* might had slight listing, it was reasonable to presume that he might want to read the ship's draught marks on the starboard side as well.

5.18 At the time of the accident, the 2/O did not wear safety harness. The main deck was wet due to rain in the past few days. The cargo residues of "UREA" had been scattered everywhere on the main deck and fittings. "UREA" was soluble in water and hygroscopic, thus facilitated the formation of lumps that could cause a person to slip, trip and fall.

5.19 Without using a rope ladder and the assistance of other crew members, the 2/O could only roughly check the ship's draught marks on the starboard side by leaning his body over the ship side. It was probable that he stepped on the stacking of log risers beside the bulwark for his convenience of checking the draught marks. In the case of the 2/O had stepped on the log risers and leaned his body forward over the ship side, the slippery surfaces could have caused him losing his balance and fell overboard.

Safety awareness

5.20 The 2/O worked alone without informing the other crew members, including his supervisors, of his intention. As a result, his missing from the vessel was not aware by the others.

5.21 In the case of checking the ship's draught mark on the log risers on the starboard side, the 2/O should have followed the relevant shipboard safety procedures and permit to work system for person working over the ship side.

5.22 In view of paragraphs 5.20 and 5.21 above, the safety awareness of the 2/O was considered inadequate.

Other safety factor

5.23 The 2/O was due to hand over his watch duty to the third officer. It could be a factor that led him by-passing the proper safety procedure in order for him to finish the job as soon as possible.

6. Conclusions

6.1 On 28 February 2015, the Hong Kong registered bulk carrier "GENCO SUGAR" (the *vessel*) was berthing in Puerto Montt, Chile to discharge cargo "UREA" in bulk. The cargo operation was completed at 1735 on 5 March 2015 and the *vessel* was prepared for sailing.

6.2 The second officer was seen going down the portside gangway and subsequently walking along the pier towards the *vessel*'s bow. At 1745, he returned back to the *vessel* and walked through the cross deck passage in way of No.5 cargo hold aft to the starboard side of the *vessel*. After that, no one saw him again.

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(ii) he did not follow the relevant shipboard safety procedures and probably even the permit to work system for person working over the ship side.

7. Recommendations

7.1 The owners / management company of the *vessel* should issue a safety circular to inform all masters, officers and crew on board ships the findings of the accident investigation and lessons learnt, and instruct them to strictly follow the safe working procedures stipulated in the Company Safety Management System Manual.

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

8. Submissions

8.1 In the event that the conduct of any person or organization is commented in an accident investigation report, it is the policy of the Marine Department to send a copy of draft report to that person or organization for comments.

8.2 The draft report was sent to the following organization and/or persons for their information /comments : -

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

b) the Shipping Division of Marine Department.

8.3 During the consultation period, comments from the manager of the *vessel* were received and had been properly considered and the report was amended. And there was no feedback from the rest of the recipients stated in section 8.2.