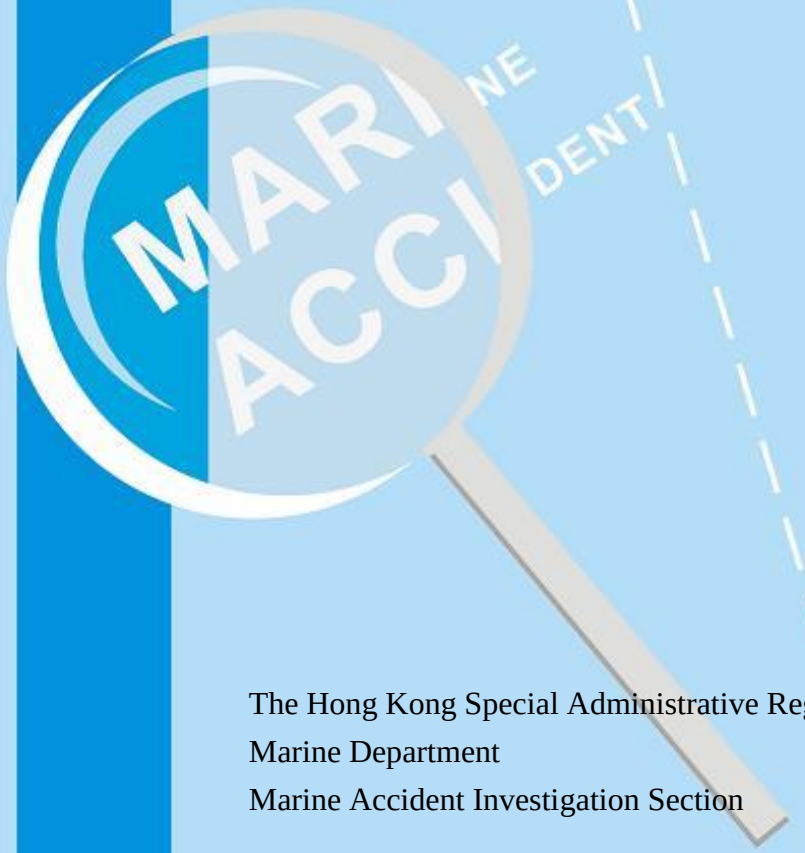
Report of Investigation into the Man Overboard from the Hong Kong Registered Oil Tanker "C. Dream" at Ulsan, Korea on 12 November 2015



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

28 December 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

All the times stated here are local (UTC + 9) unless otherwise specified.

1.1 On 12 November 2015, at about 0236 hrs, the Hong Kong registered Very Large Crude Carrier (VLCC) tanker "*C. Dream*" (*the vessel*) completed discharging cargo at the No.2 berth of SBM (Single Buoy Mooring) in Ulsan, Republic of Korea.

1.2 In order to disembark the shore personnel onboard before casting off from the SBM, the portside accommodation ladder of *the vessel* was prepared as requested by mooring master and shore cargo supervisor.

1.3 A service boat arrived at about 0315 hrs and the cargo supervisor donned with an inflatable lifejacket went down as the first one through the accommodation ladder for disembarking. While the cargo supervisor just landed on the forward deck of the service boat, he lost his balance and fell into water. He could not be found despite continuous search and rescue operations carried out immediately after the incident.

1.4 The investigation into the accident revealed that the main contributory factors to the accident were as follows:

a) the cargo supervisor might not stay alert to falling overboard while he jumped from the accommodation ladder onto the service boat; and

b) the lifejacket not being donned properly.

2. Description of the Vessel

2.1 Particulars of the vessel

Name of the vessel	:	*C. Dream (the vessel)*
Flag	:	Hong Kong, China
Port of Registry	:	Hong Kong
IMO No.	:	9182318
Call Sign	:	VRYK8
Ship Type	:	Oil Tanker (VLCC[1])
Year of Built (Delivery)	:	2000
Gross Tonnage	:	159,397
Net Tonnage	:	95,799
Deadweight	:	298,570 metric tonnes
Summer Draft	:	21.13 m
Length (Overall)	:	332.95 m
Breadth (moulded)	:	60.00 m
Main Engine & Power	:	MAN-B&W, 1 x 7S80MC, 25,480 kW at 79 rpm
Classification Society	:	Nippon Kaiji Kyokai (ClassNK)
Management Company	:	Univan Ship Management Ltd

Fig. 1 –Crude Oil Tanker *C. Dream* (from Sea-web)

[1] VLCC: Very Large Crude Carriers, a typical VLCC has a size ranging between 180,000 to 320,000 deadweight metric tons (DWT).

2.2 Particulars of the service boat

Name of the vessel	:	*EUN SEONG (the boat)*
Flag	:	Republic of Korea
Port of Registry	:	Ulsan
Official No.	:	USC-947916
Call Sign	:	N/A
Kind of Vessel	:	Motor vessel
Year of Launch	:	November 1994
Gross Tonnage	:	12
Net Tonnage	:	N/A
Depth	:	1.62 m
Length (Overall)	:	14.81 m
Breadth (moulded)	:	3.60 m
Main Engine	:	Diesel
Classification Society	:	N/A
Owner	:	Hyundai Maritime Enterprise Co., Ltd

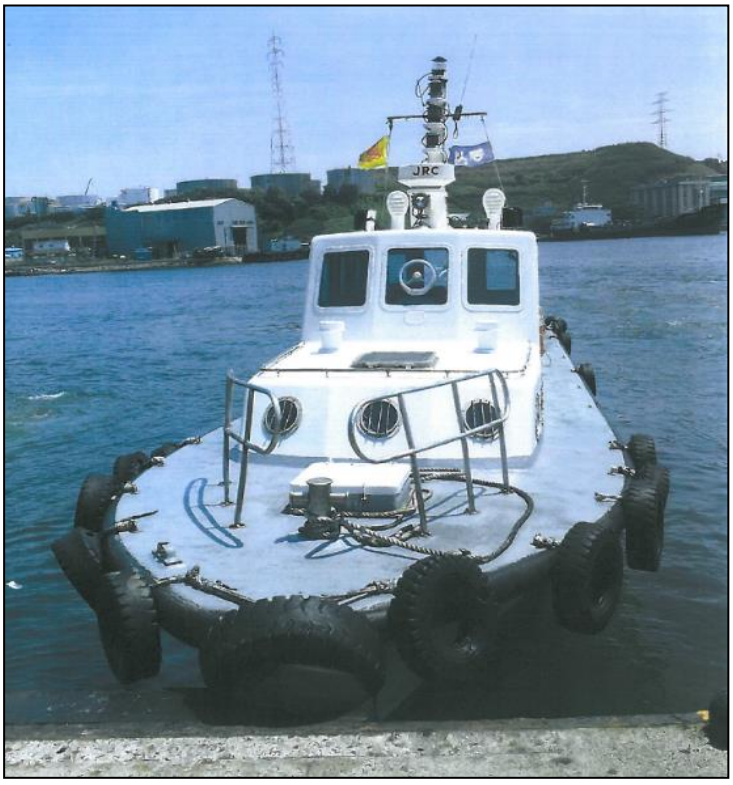

Fig. 2 –Service boat *"EUN SEONG "*(USC-947916)

3. Sources of Evidence

3.1 The management company of *C. Dream*.

3.2 Korean Maritime Safety Tribunal.

4. Outline of Events

4.1 On 12 November 2015, at about 0236 hrs, *the vessel* completed discharging cargo at the No.2 berth of SBM (Single Buoy Mooring) in Ulsan, Republic of Korea.

4.2 *The vessel* was ready for casting off from the SBM. The mooring master was waiting for the pilot to board *the vessel*. Other shore personnel, including the agent, cargo surveyor and cargo supervisor, were ready to disembark and waiting on deck for service boat.

4.3 As requested by the mooring master and the cargo supervisor, the port side accommodation ladder was prepared by the ship's crew for disembarkation.

4.4 At about 0315 hrs, the service boat "*EUN SEONG"* (*the boat*) arrived. The shore personnel were getting down through the accommodation ladder one by one for disembarkation. The cargo supervisor, with his own inflatable lifejacket donned, was the first one. While the cargo supervisor jumped from the lower platform of the accommodation ladder and landed on the forward deck of *the boat*, he lost his balance and fell into the water (Fig.3).

4.5 The other shore personnel standing on the accommodation ladder and the ship's crew attending the accommodation ladder witnessed the accident. They shouted "man overboard" and immediately initiated the rescue operation. Lifebuoys were thrown down immediately to the cargo supervisor in water. *The boat* and a hose handling boat nearby attended the rescue operation.

4.6 As soon as the cargo supervisor fell into the water, the inflatable lifejacket was detached from him and failed to inflate. The cargo supervisor was seen afloat on the sea surface trying to get hold of the lifebuoys.

4.7 At about 0324 hrs, the mooring master informed marine police regarding the man overboard accident. One more boat nearby and later a police boat arrived and joined the rescue operation.

4.8 At about 0330 hrs, the cargo supervisor still could not get hold of any lifebuoys and drifted toward the stern of *the vessel* till crew lost sight of him.

4.9 *The vessel* casted off from SPM at about 0500 hrs and commenced to drift in limit area outside Ulsan port at about 0748 hrs.

4.10 At about 1427 hrs, *the vessel* was permitted by marine police to sail from Ulsan port

to continue her voyage to Singapore.

4.11 The search and rescue operation was continued by local authorities. Despite the efforts for several days, the cargo supervisor was still missing.

4.12 At the time of the accident, the weather was overcast in moderate condition. There was a northeast wind of about force 5 on the Beaufort scale, with 1 to 2 meters sea and swell condition. The visibility was good of about 7 nautical miles. The air and sea water temperatures were 17 and 19 degree Celsius respectively.

Fig. 3- The first contact point of the cargo supervisor with *the boat* and the position of the search light installed.

5. Analysis

Ship certificates and manning

5.1 At the time of the accident, all the statutory certificates of *the vessel* were valid.

5.2 *The vessel* was manned with experienced Indian master, officers and crewmembers. The master had worked for the management company of *the vessel* as a ship master on board various VLCCs or chemical/products tankers for more than eighteen years. He joined *the vessel* for about five months before the accident. He held a valid certificate of competency as a master until 18 April 2016 issued by the Government of India on 28 June 2006, and a valid Class 1 License (Deck Officer) issued by the Hong Kong Marine Department on 1 September 2011.

5.3 The chief officer had worked as a chief officer on VLCCs for more than three years and joined the company for about two years. He joined *the vessel* in August 2015 as the chief officer. He held a valid certificate of competency as a chief mate until 26 February 2020 issued by UK on 9 March 2010, and a Class 2 License (Deck Officer) issued by the Hong Kong Marine Department on 23 June 2015.

5.4 The bosun was an experienced deck hand who had worked on various types of ship for more than sixteen years. He joined the company in February 2012.

Accommodation ladder and accessing arrangement (Fig. 4)

5.5 Accommodation ladders at both sides of *the vessel* were load tested on 30 and 31 August 2015 and the results were confirmed satisfactory by the inspector. A Ship-Shore Safety Check List was completed and signed with positive results for all applicable items before *the vessel* discharged her cargo commencing at 1220 hrs on 11 November 2015. Item No.1 in the checklist confirmed that safe access was available through *the vessel*'s port and starboard accommodation ladders which were considered in good working condition and accepted as the accessing arrangement.

5.6 At time of the accident, the freeboard of *the vessel* was about 18.50 metres. The distance from the surface of the water to the point of access to *the vessel* was therefore much more than 9 metres. The requirements of the SOLAS Regulation V/23.3.3. for pilot accessing arrangement, an accommodation ladder in conjunction with the pilot ladder (i.e. a combination arrangement), or other equally safe and convenient means should be arranged. However, for personnel other than pilot disembarkation, the ship's crew arranged accommodation ladder only as requested

by the mooring master and the cargo supervisor. It was considered to be a common practice in Ulsan port that shore personnel access to ships through accommodation ladder only.

5.7 Based on the freeboard of *the vessel*, the length of the accommodation ladder (24.91 meters) and the height of *the boat* stem (1.62 meters), the accommodation ladder's angle of slope was about 40° which was less than the limit of 45° recommended by the Resolution A.1045 (27). As such, the use of the accommodation ladder for shore personnel disembarkation could be considered as a safe accessing arrangement.

5.8 According to the statements and clarifications from the company, adequate fixed lighting had been provided on the accommodation ladder and the bridge front to illuminate the accessing arrangement over side and the vicinity area for embarkation or disembarkation. Safety net was properly rigged to the accommodation ladder to prevent anyone from inadvertently falling in-between the shipside and the accommodation ladder. A lifebuoy was kept near the accommodation ladder for immediate use. Hence, accessing arrangement did not contribute to the accident.

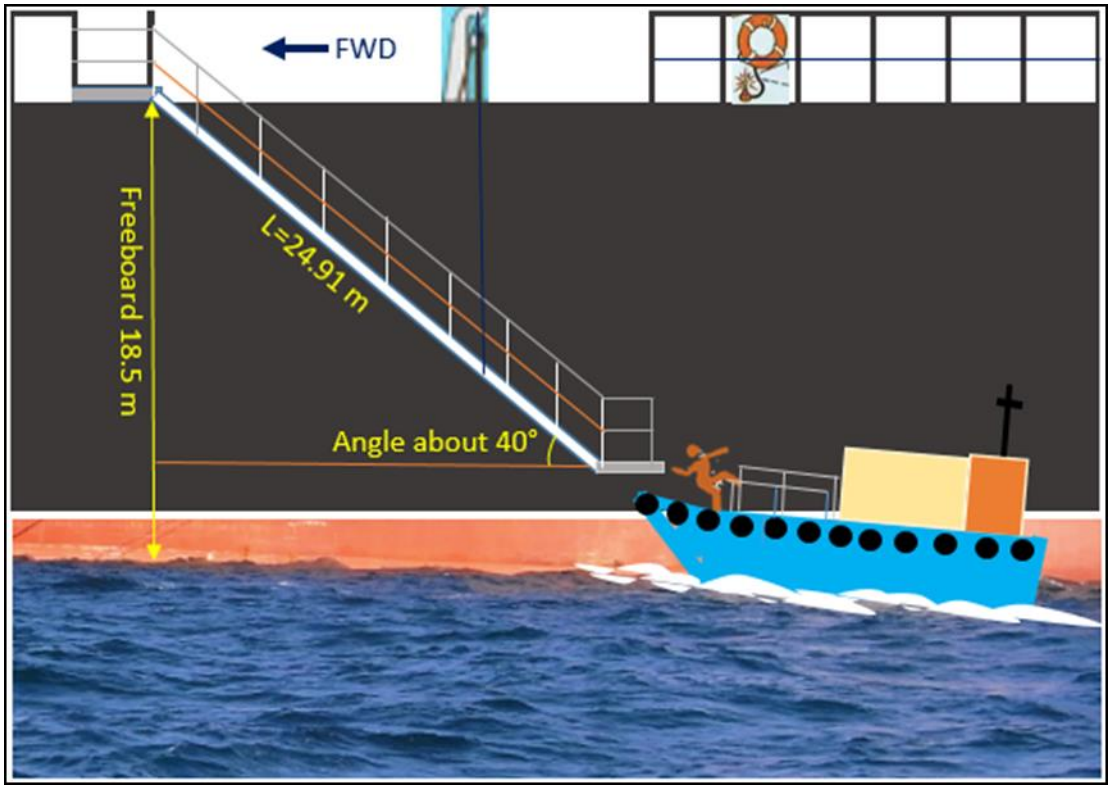

Fig. 4- The sketch of accessing arrangement.

<u>The cargo supervisor</u>

5.9 The missing cargo supervisor used to be a master onboard ships with sufficient sea service experience. As a cargo supervisor, he worked onboard ships moored on

SBM. As such, he should be a person familiar with how to access to a ship safely through accommodation ladder.

5.10 No information was obtained about the physical, mental and emotional status of the cargo supervisor.

Fatigue

5.11 According to the Gangway Log Record of *the vessel*, the cargo supervisor embarked at 1025 hrs on 11 November 2015 and disembarked at 0315 hrs while the accident happened on 12 November 2015. He stayed onboard for about 17 hours to supervise cargo offloading.

5.12 *The vessel* had provided him with a cabin for taking rest / sleeping on board as a common practice during his service. He could take rest when the discharge was in progress. The fatigue was not considered as a contributory factor to the accident.

Alcohol or drugs impairment

5.13 There is a "zero alcohol" policy on board the company's tanker fleet. There was no evidence to suggest that alcohol or drugs were taken by the cargo supervisor.

Lifejacket

5.14 The cargo supervisor went down the accommodation ladder with his own inflatable lifejacket donned. As soon as he fell into the water, however, the donned lifejacket was detached from him and failed to inflate. As the lifejacket detached from his body when fallen into water, the cargo supervisor lost his primary method of keeping afloat on sea surface. It was deduced that the lifejacket might not be donned properly by the cargo supervisor, or the size of the lifejacket was not appropriate.

5.15 Since the lifejacket was lost and could not be found, it is unable to verify the working condition of the same.

The service boat

5.16 *The boat* was built in November 1994 and was a common service boat to transfer personnel between shore and anchorage. Her forward open deck was fitted with handrail for safe access of personnel on/off board. Rubber tires fitted as fender around the open deck side edge of the boat to avoid any friction or clash. One search light was mounted on the top of the bridge for illuminating the forward deck boarding area.

5.17 *The boat* was considered suitable for picking up the cargo supervisor from *the vessel*. However, no further information is available to determine the coxswain's performance and *the boat*'s condition.

Weather condition

5.18 At the time of the accident, the weather was overcast. There was a northeast wind of about force 5 on the Beaufort scale, with 1 to 2 meters sea and swell. The visibility was good of about 7 nautical miles. The air and sea water temperatures were 17 and 19 degree Celsius respectively.

5.19 The weather condition was fair for the personnel disembarkation via *the boat*. The wind and sea condition might cause the boat rolling and pitching, but it was in an acceptable range which was assessed and confirmed by ship–shore safety checklist. The weather condition was not considered as a contributory factor to the accident.

6. Conclusion

6.1 On 12 November 2015, at about 0236 hrs, the Hong Kong registered Very Large Crude Carrier (VLCC) tanker "*C. Dream*" completed discharge at the No.2 berth of SBM in Ulsan, Republic of Korea.

6.2 The portside accommodation ladder of *the vessel* was prepared for a service boat to pick up the shore personnel before casting off from the SBM. A service boat arrived at about 0315 hrs and the cargo supervisor donned with an inflatable lifejacket went down as the first one through the accommodation ladder for disembarkation. While the cargo supervisor just landed on the forward deck of the service boat, he lost his balance and fell into water. He could not be found despite continuous search and rescue operations carried out immediately after the incident.

6.3 The investigation into the accident revealed that the main contributory factors to the accident were as follows:

a) the cargo supervisor might not stay alert to avoid falling overboard while he jumped from the accommodation ladder to the service boat; and

b) the lifejacket not being donned properly.

7. Recommendations

7.1 The company should issue safety instructions to all vessels under its management to instruct all masters, officers and crew as well as remind all other persons working on board ships, that when transferring personnel between a ship and a boat through pilot ladder or accommodation ladder at sea, all people should:

(a) take into account the risk of falling into sea while embarkation or disembarkation; and

(b) don a lifejacket properly.

8. Submission

8.1 In the event that the conduct of any person or organization is criticized in an accident investigation report, it is the policy of the Marine Department that a copy of the draft report should be given to that person or organization so that they can have an opportunity to express their views on the report or offer evidence previously not available to the investigating officer.

8.2 Copy of the draft report had been sent to the following parties for comments:

a) The management company, the master of "*C. Dream*"; and

b) The Korean Maritime Safety Tribunal.

8.3 During the consultation period, no submission was received from the parties in 8.2.