Report of investigation into the fatal accident on board the Hong Kong registered bulk carrier "*Pelican Island*" in Alexandria, Egypt on 14 August 2019

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

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Purpose of Investigation

The purpose of this investigation, conducted by the Marine Accident Investigation Branch (MAIB) of Marine Department, is to determine the circumstances and the causes of the incident with the aim of enhancing the safety of life at sea and avoiding similar incidents in future.

It is not intended to apportion blame or liability towards any particular organization or individual except so far as necessary to achieve the said purpose.

The MAIB 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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Summary

On 8 August 2019, a Hong Kong registered bulk carrier, "Pelican Island" *(the vessel)*, arrived and berthed at port of Alexandria, Egypt. Cargo discharging commenced on the same day.

On 14 August 2019, three stevedores gathered empty oil containers on the port side main deck beside the No. 5 cargo hold. The stevedores intended to transfer the empty oil containers to shore by the ship crane with a grapple. When one of the stevedores working underneath the partially-opened grapple, a stevedore who operated the ship crane closed the grapple and the tines of the grapple caught the neck of that stevedore underneath the grapple resulted in the fatal accident.

The investigation revealed that the main contributory factors causing the accident were insufficient safety awareness of the stevedores who underestimated the risk of working underneath the grapple, no stevedore signalman was assigned for the crane operation and the stevedore crane operator failed to confirm that there was no person in the hazardous area underneath and around the grapple before operating it, and lastly, the duty crew had not observed the unsafe operation of the stevedores on board.

1. Description of the vessel

Ship name	:	Pelican Island (Figure 1)
Flag	:	Hong Kong, China
Port of registry	:	Hong Kong
IMO number	:	9668922
Type	:	Bulk Carrier
Year built, shipyard	:	2014, Tsuneishi Shipbuilding Co. Ltd.
Gross tonnage	:	32,424
Net tonnage	:	19,447
Summer deadweight	:	57,905 tonnes
Length overall	:	189.99 metres
Breadth	:	32.26 metres
Engine output, type	:	8,200 kW, MAN B&W 6S50ME-C8.2
Classification society	:	Nippon Kaiji Kyokai
Registered owner	:	Pelican Island Limited
Management company	:	Pacific Basin Shipping (HK) Limited

Figure 1 *The vessel*

2. Sources of evidence

2.1 The information provided by the crew and the management company of *the vessel*.

3. Outline of events

(All times were local time UTC +2 hours)

3.1 On 8 August 2019 at 1835 hours, *the vessel* loaded with steel scrap berthed alongside quay No. 67 of Alexandria Port in Egypt. Cargo discharge commenced on the same day at 2350 hours.

3.2 At 1005 hours on 14 August 2019, the cargo discharge stopped at No. 5 cargo hold and the shore crane shifted from there to No. 1 cargo hold. At 1025 hours, the cargo discharge operation at No. 5 cargo hold resumed by using a scrap grapple brought from shore by the No. 4 ship crane operated by a stevedore (*the crane operator*).

3.3 At 1050 hours, three stevedores (Stevedore A, Stevedore B and Stevedore C) gathered empty oil containers on the port side main deck beside the No. 5 cargo hold. The empty oil containers were used to store fuel for the excavators working inside cargo holds of *the vessel*.

3.4 To transfer all the empty oil containers ashore, *the crane operator* stopped the cargo discharging operation and tried to clasp all the empty oil containers on deck by the tines of the scrap grapple but in vain. Then the three stevedores proceeded to tie up the empty oil containers by rope so that the grapple could catch the containers altogether but this also failed.

3.5 Eventually, Stevedore A managed to tie all the empty oil containers on a steel pipe. Stevedore B assisted to secure the steel pipe to the tines of the grapple in partially-opened condition when Stevedore A finished securing one end of the steel pipe to one of the tines and came out.

3.6 At about 1100 hours, when Stevedore B was still securing another end of the steel pipe to one of the tines of the grapple, the grapple suddenly closed and Stevedore B's neck was caught in by the tines of the grapple (Figure 2).

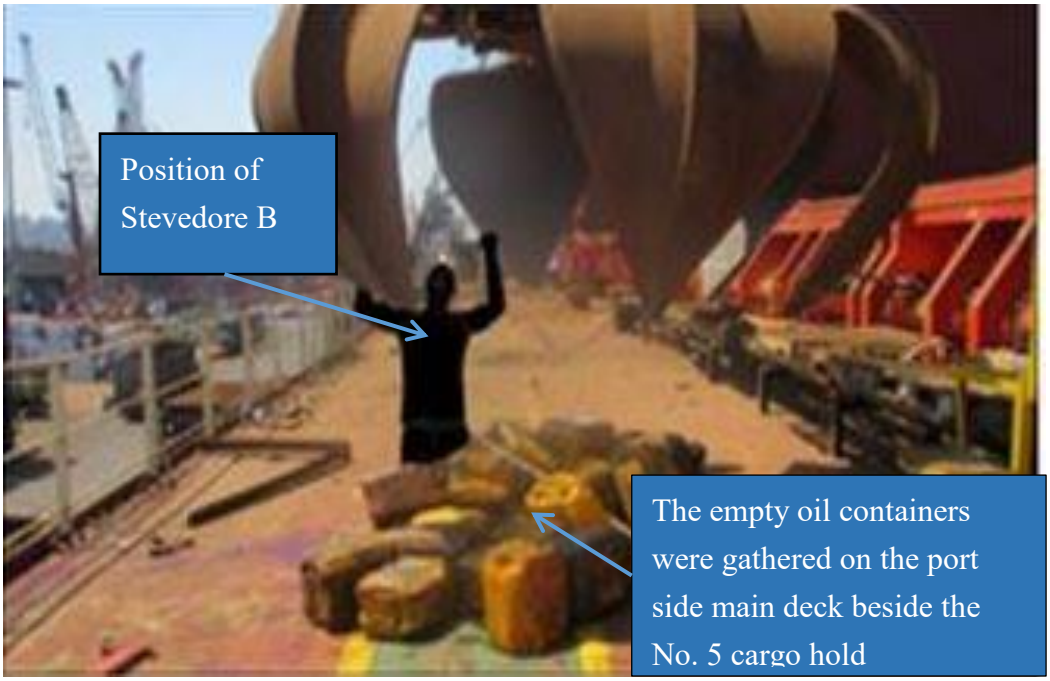

Figure 2 The Stevedore B's neck was caught in by the tines of the grapple

3.7 Stevedore A ran and shouted to *the crane operator* to open the grapple immediately. When the grapple opened, Stevedore B collapsed on the main deck with blood oozing from his neck. Stevedore A shifted Stevedore B to the adjacent gangway for emergency treatment.

3.8 When a duty crew on the gangway watch heard the shouting, he noticed the accident and informed the duty officer by portable radio. The Master and Chief Officer were also alerted to the accident through their portable radios. An emergency rescue team was organized. The first aid kit and stretcher from ship hospital were brought to the scene.

After checking the condition of Stevedore B, the Master called the local agent for emergency medical assistance.

3.9 The crew attempted to apply first aid treatment to Stevedore B but he showed no response with blood continue bleeding from his neck. At 1130 hours shore medical team arrived onboard and Stevedore B was conveyed to hospital for emergency medical treatment but he was certified dead at 1215 hours on the same day.

4. Analysis

Certification, training and experience

4.1 The statutory trading certificates of *the vessel* were valid and in order. *The vessel* was manned by 18 crew members including the Master.

4.2 The Master held a valid Class 1 Licence of the Deck Officer issued by the Hong Kong Marine Department (HKMD). He had worked as shipmaster for about 3 years and joined *the vessel* about 5 months before the accident.

4.3 The Chief Officer held a valid Class 1 Licence of the Deck Officer issued by HKMD. He had worked as chief officer for about 2 years and joined *the vessel* about 3 months before the accident.

4.4 The Third Officer held a valid Class 3 Licence of the Deck Officer issued by HKMD. He had worked as third officer for about 6 months and joined *the vessel* about 4 months before the accident.

4.5 There was no abnormality noted with regard to the concerned crew's certification and experience.

Weather and sea conditions

4.6 The weather was partly cloudy with north-westerly wind of Beaufort force 3, large wavelets at sea and visibility was about 5 nautical miles. As *the vessel* was moored alongside, such weather and sea conditions should not be the contributory factors in this accident.

Cause of death

4.7 The examination notice of the deceased revealed that the cause of death

was a fracture in the skull and bleeding in the brain which was consistent with the accident.

Stevedores

4.8 The three stevedores and *the crane operator* were employed by a local stevedoring company. There was no information about their relevant training and physical conditions at work.

Fatigue, alcohol and drug abuse

4.9 There was no evidence to show that any crew nor the stevedores on board, suffered from either fatigue at work or abuse of alcohol and drug.

Probable cause of accident

4.10 The proper way to dump the empty oil containers ashore was to put them in a rubbish bin on board and let the ship crane move the loaded rubbish bin ashore. As the rubbish bin was on the starboard main deck and the empty oil containers were at the port side, it would be necessary to relocate the rubbish bin to the port side for easy dumping (Figure 3). Stevedores A and B might have underestimated the risk of working underneath the grapple. The safety awareness of the stevedores was probably inadequate in attempting the shortcut to transfer the empty oil containers ashore by the grapple without using the rubbish bin.

Figure 3 The rubbish bin on the starboard main deck

4.11 At the material time, no signalman was appointed to give instruction to *the crane operator* in operating the grapple safely including confirming no person in the hazardous area underneath and around the grapple before operation. Unfortunately, *the crane operator* operated the grapple without noticing that Stevedore B was still underneath the grapple resulting in the accident.

Supervision of the stevedores

4.12 The Notification to External Parties on Environmental and Occupational Health and Safety Management on Board (form T-04) of *the vessel* stated that signalman shall be posted on deck for safe operation of crane and safety of personnel. The signalman shall monitor the hatch and deck area for the crane being operated, and shall keep eye contact with the crane operator for signaling as per good stevedoring practices. Despite the Chief Officer had discussed all the items of the form T-04 with the stevedore foreman, he refused to sign and confirm the form T-04. Probably due to their poor safety

awareness, they neither understood nor followed *the vessel's* safety requirement. Eventually, the stevedores failed to have a signalman for the crane operation on board.

4.13 The Chief Officer had safety talks with the stevedore foreman daily. The Chief Officer also gave standing orders to duty crew that they should monitor and stop any unsafe working practice of stevedores and inform the stevedore foreman about the unsafe operation being noticed.

4.14 Although the off duty engine cadet witnessed the operation of the three stevedores from the crew smoke room before the accident, he was not aware of their intention and did not stop them. Nevertheless, no duty crew observed the unsafe act of the three stevedores on board.

5. Conclusions

5.1 On 14 August 2019, a fatal accident happened onboard *the vessel* at the port of Alexandria, Egypt while she was discharging cargo of steel scrap. Three stevedores gathered empty oil containers on the port side main deck beside the No. 5 cargo hold. The stevedores intended to transfer the empty oil containers to shore by the ship crane with a scrap grapple. When one stevedore working underneath the partially-opened grapple, the grapple closed suddenly and the tines of the grapple caught the neck of that stevedore. That stevedore was certified dead later on the same day.

5.2 The investigation revealed that the main contributory factors causing the accident were as follows:

(a) the stevedores had insufficient safety awareness and underestimated the risk of working underneath the grapple;

(b) no stevedore signalman was assigned for the crane operation and *the crane operator* failed to confirm that there was no person in the hazardous area underneath and around the grapple before operating the grapple; and

(c) the duty crew had not observed the unsafe operation of the stevedores on board.

6. Recommendations

6.1 After the accident, the management company of *the vessel* had issued a circular informing its fleet to take appropriate actions against any unsafe operation of stevedores on board, including suspension of unsafe operation if necessary.

6.2 The management company should inform all masters, officers and crew of its fleet to enhance safety patrol to monitor the safe working of stevedores on board.

6.3 A Hong Kong Merchant Shipping Information Note is to be issued to promulgate the lessons learnt from this accident.

7. Submission

7.1 The draft investigation report, in its entirety, was sent to the following parties for their comments:

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

(b) the stevedore company.

7.2 During the consultation period, comment from the management company and the master of *the vessel* was received and the report has been amended as appropriate. No comment was received from the stevedore company.