REPUBLIC OF THE MARSHALL ISLANDS

Maritime Administrator

DELICATA CASUALTY INVESTIGATION REPORT

Bosun's Fall Overboard

Rio de La Plata, Oriental Republic of Uruguay | 17 March 2020

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DISCLAIMER

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AUTHORITY

An investigation, under the authority of the Republic of the Marshall Islands laws and regulations, including all international instruments to which the Republic of the Marshall Islands is a Party, was conducted to determine the cause of the casualty.

Maritime Administrator

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PART 1: EXECUTIVE SUMMARY

On 17 March 2020, the Republic of the Marshall Islands-registered general cargo ship DELICATA, managed by POS SM Co., Ltd. (the "Company"), was outbound from Punta Pereira, Oriental Republic of Uruguay on the Rio de La Plata.

On the morning of 17 March 2020, in preparation for disembarking the Pilot, the Chief Officer (C/O) tasked the Bosun with adjusting the height of the pilot ladder. Due to DELICATA's freeboard at the time, a combination arrangement of the accommodation and pilot ladders had already been prepared. The Bosun assigned an Ordinary Seafarer (OS) to assist him with this task.

The two crewmembers attempted to pull up the pilot ladder but were unable to do so as it was tied to an attachment point on the ship's hull. The Bosun then descended the accommodation ladder, without wearing a lifejacket and safety harness, to untie the pilot ladder. Shortly thereafter, the OS heard the Bosun shout and looked over the side to see that he had fallen into the water. The OS immediately notified the crew over very high frequency (VHF) radio and then went aft to the Accommodation to call the Bridge.

DELICATA and other nearby ships conducted a search for the Bosun. He was spotted by another outbound ship and was recovered by the pilot boat. When recovered, it was determined that he was deceased.

The marine safety investigation conducted by the Republic of the Marshall Islands Maritime Administrator (the "Administrator") identified the following:

1. Causal factors which contributed to the Bosun's fall overboard and subsequent death:
   (a) failure to wear a lifejacket, safety harness, and lifeline while working over the side as required by the Company's Safety Management System (SMS);
   (b) failure to comply with the Company's safe work practices by not issuing a Permit to Work Over the Side, not conducting a Toolbox Talk, not assigning an adequate number of crewmembers, and failing to make ready emergency equipment prior to working over the side while adjusting the pilot ladder;
   (c) inadequate supervision of the assigned task; and
   (d) inadequate onboard implementation of the Stop the Job authority.
2. Additional factors identified during the Administrator's marine safety investigation include:
   (a) the inappropriate initial response to the Bosun falling overboard by failing to immediately deploy a lifebuoy and failing to maintain sight of the Bosun;
   (b) the personal protective equipment (PPE) matrix in the Company's SMS did not indicate that a lifejacket was required while working over the side, contrary to the Company's Permit to Work Over the Side; and
   (c) inadequate communication between the Bridge and crewmembers working on deck.

PART 2: FINDINGS OF FACT

The following Findings of Fact are based on the information obtained during the Administrator's marine safety investigation.

1. Ship particulars: *see* chart to right.
2. On 16 March 2020, DELICATA was berthed in Punta Pereira, Oriental Republic of Uruguay. Before departing berth, the port side accommodation ladder and pilot ladder were prepared for disembarking the Pilot.
3. At about 1440,[1] the Master approved a Permit to Work Over the Side, which listed the C/O and Second Officer (2/O) as the responsible officers. The Permit to Work Over the Side also required that crewmembers completing the work must wear

1 Unless otherwise specified, all times are ship's local time (UTC -3).

SHIP PARTICULARS

Ship Name
DELICATA

Registered Owner
POS Maritime FA S.A

ISM Ship Management
POS SM Co., Ltd.

Flag State
Republic of the Marshall Islands

IMO No.	Official No.	Call Sign
9613317	5048	V7AQ5

Year of Build	Gross Tonnage
2013	39,009

Net Tonnage	Deadweight Tonnage
16,720	57,500

Length x Breadth x Depth
192.6 x 32.2 x 19.3 meters

Ship Type
General Cargo

Document of Compliance Recognized Organization
Korean Register of Shipping

Safety Management Certificate Recognized Organization
Korean Register of Shipping

Classification Society
Korean Register of Shipping

Persons on Board
21

safety helmets, safety shoes, lifejackets, safety harnesses, and lifelines. The primary risks identified were "falling overboard" and "caught in between ropes." The preparation of the port side accommodation and pilot ladders was completed at 1450.

4. Before departure, a risk assessment for disembarking the Pilot was also completed. It identified hazards associated with the Pilot's transfer from DELICATA to a pilot boat. This risk assessment did not address any risks associated with adjusting the accommodation or pilot ladders.

Port Side Pilot Boarding Arrangement

5. DELICATA's port side is fitted with a 13 meter (m) long accommodation ladder, which is hinged at the top to a platform, level with the main deck. The accommodation ladder is raised and lowered by cables and a pneumatic winch. The upper deck also has four locations for the attachment of a pilot ladder. This allows the pilot ladder to be used alone or in combination with the accommodation ladder while at different angles *(see Figure 1)*.

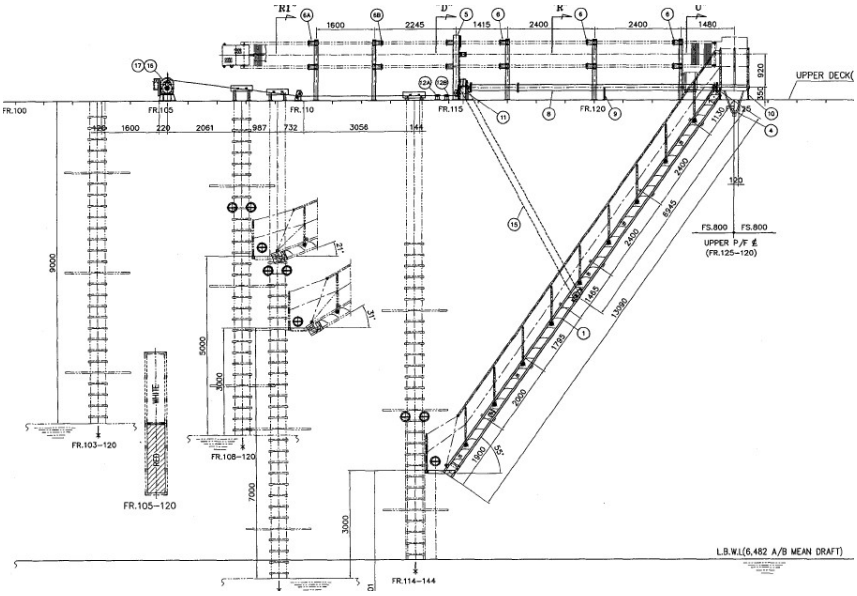

Figure 1: Pilot transfer arrangement plan for starboard side. The port side arrangement is symmetrical.

6. The International Maritime Organization's (IMO's) International Convention for the Safety of Life at Sea (SOLAS), 1974 Chapter V, Regulation 23.3 requires that "an accommodation ladder in conjunction with the pilot ladder (i.e., a combination arrangement)" be provided for the transfer of a pilot whenever the point of access to the ship is more than 9 m above the surface of the water.

7. At the time of the incident, DELICATA's freeboard was about 10 m. Before departing, a combination arrangement was prepared. The pilot ladder was secured to the ship's hull just above the lower platform of the accommodation ladder to keep it positioned close to the lower platform of the accommodation ladder *(see Figure 2)*.

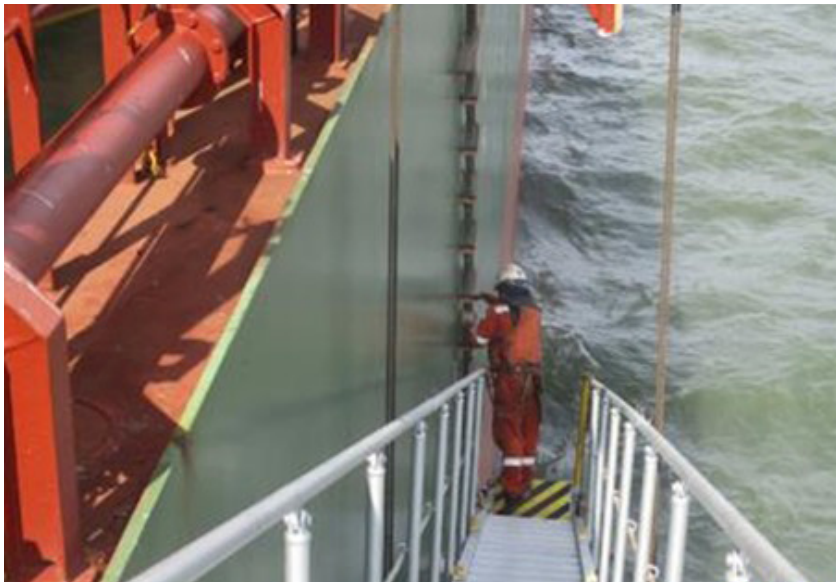

Figure 2: Arrangement of accommodation and pilot ladders at the time of the incident, taken from the top of the accommodation ladder.

Incident

8. DELICATA departed Punta Pereira at about 1600 on 16 March 2020 and was bound for Santos, Brazil. A local Pilot was on board for the outbound transit of the Rio de La Plata.

9. On the morning of 17 March 2020, the ship was transiting outbound in the Canal Punta Indio channel at a speed of about 10 knots. The C/O, an Able Seafarer Deck (ASD), and the Pilot were on the Bridge.

10. During the transit, the weather was clear skies, Beaufort Force 5 winds, and 2 m swell.

11. At about 0635, the Master arrived on the Bridge. The ship was about 6 nautical miles (NM) from the pilot station when he ordered the C/O, who was the Officer on Watch (OOW), to ensure the port side pilot ladder was properly prepared. The C/O then phoned the Bosun and directed him to raise the pilot ladder so that the bottom was about 2 m above the water. A new Permit to Work Over the Side was not issued, nor were the required safe work practices implemented prior to the Bosun being assigned to complete the task.

12. The Bosun and the OS, who he assigned to assist, went to the port side pilot ladder around 0700. The Bosun and OS were reported to be wearing boiler suits, safety shoes, safety helmets, and gloves. Neither were wearing lifejackets, safety harnesses, or lifelines. They also both had portable VHF radios, that were reportedly tested prior to beginning the task and were operating properly.

13. The OS began loosening the shackles which attached the top of the pilot ladder to the pad eyes on deck. The Bosun attempted to lift the pilot ladder. They were unable to raise the pilot ladder because it was secured to the hull near the accommodation ladder's bottom platform. The Bosun then went down the accommodation ladder to untie the pilot ladder from the hull securing point, while the OS remained at the top of the pilot ladder.

14. At about 0709, the OS was reattaching a shackle to a pad eye on the deck when he heard the Bosun shout. He looked over the side and saw that the Bosun had fallen from the accommodation ladder into the sea.

15. The OS used his portable VHF radio to try to notify the crewmembers that the Bosun had fallen overboard. Without receiving a response to his message over his radio, he went aft to the Accommodation and used a phone to call the Bridge.

16. Once notified, the Master released the port side Bridge wing lifebuoy and smoke float. The pilot ordered port rudder to move the stern away from the port side. As the ship was in a confined channel, a Williamson Turn was not initiated. Shortly thereafter, an announcement was made over the public address system and all crew mustered to help search for the Bosun.

17. The Pilot notified the vessel traffic service, as well as other nearby ships, using the ship's VHF radio. The pilot boat was also in the vicinity and began searching for the Bosun.

18. At about 0740, an outbound ship reported spotting an object on the water. The pilot boat proceeded to the reported position and located the Bosun. He was recovered from the water and determined to be deceased by the pilot boat's crewmembers at 0747.

19. The Ministry of Public Health of Uruguay issued a death certificate which listed the cause of death as polytrauma due to external forces.

SMS

20. As required by the IMO's International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code), the Company's SMS provided procedures for shipboard tasks. These included requirements for using PPE, conducting pre-task hazard assessments, pre-task briefings (also known as Toolbox Talks), and issuing Permits to Work.

21. The Company's PPE matrix required that a boiler suit, safety shoes, safety helmet, gloves, safety harness, and lifeline be worn while working over the side.

22. The SMS also included safe working rules for pilot ladder rigging which, among other requirements, stated:

    (a) "Arrange more than two workers and assign them for the rigging."

    (b) "All workers should wear a lifejacket."

    (c) "Keep a lifejacket and a lifebuoy with a lifeline and a self-igniting light on the spot."

23. The SMS required issuing a Permit to Work Over the Side when working over the ship's side. The Permit to Work Over the Side listed requirements which must be met including the use of lifejackets, safety harnesses, and lifelines. The Permit to Work Over the Side issued before departure for the initial preparation of the accommodation and pilot ladders listed the Bosun and OS as the crewmembers carrying out the work and the C/O and 2/O as the responsible officer. This permit also indicated that the Bosun and OS participated in a Toolbox Talk given by the C/O. A new Permit to Work Over the Side was not issued, nor were the required safe work practices implemented prior to adjusting the pilot ladder during the outbound transit.

24. The Company's SMS also included a Stop the Job policy, providing the authority for any crewmember to stop work immediately when unsafe acts or conditions are observed. The failure to comply with set standards or procedures while performing a task is listed as a specific situation when this authority should be exercised.

25. All crewmembers joining DELICATA, as well as those that are promoted or change job classification, are required to complete an initial familiarization training program. This included training on the requirements in the Company's SMS, proper PPE use, and actions required in the event of an emergency.

DELICATA Crew

26. DELICATA had a complement of 21 crewmembers, more than required by the Minimum Safe Manning Certificate issued by the Administrator.

27. All involved seafarers held the appropriate Republic of the Marshall Islands seafarer documentation for their positions.

28. The Administrator did not find any indication that the crewmembers involved with this incident failed to get the amount of rest mandated by the IMO's Seafarers Training, Certification and Watchkeeping (STCW) Code, Section A-VIII/1, paragraphs 2 and 3 and the International Labour Organization's Maritime Labour Convention, 2006 (MLC, 2006), Regulation 2.3.

29. Alcohol testing of all crewmembers, except for the Bosun, was completed on board following the incident. The Master reported that no alcohol was detected.

30. On joining the DELICATA, records show the Master, C/O, Bosun, and OS all completed initial familiarization training.

31. The table below details the involved crewmember's experience.

RANK	TIME ON BOARD DELICATA	TIME IN RANK	TIME WITH COMPANY	TOTAL TIME AT SEA
Master	6 months, 2 days	2.8 years	6 months, 22 days	11.5 years
C/O	2 months, 3 days	5.5 years	8 years	12.2 years
Bosun	5 months, 24 days	2.8 years	22.3 years	16.4 years
OS	2 months	2 months	3.4 years	1.3 years

PART 3: ANALYSIS

The following Analysis is based on the above Findings of Fact.

Fall from Accommodation Ladder

The cause of the Bosun's fall from the accommodation ladder is not known since the fall was not witnessed.

The OS reported that he saw the Bosun descend the accommodation ladder to untie the pilot ladder and, shortly thereafter, heard the Bosun yell. When he looked over the side, he saw the Boson in the water.

Once the OS was aware that the Bosun had fallen into the water, he immediately transmitted notification to the crewmembers over VHF radio. However, he did not receive any response to his call. It is not known why the transmission was not received by the Bridge, considering that the radio was tested prior to beginning the task and was reported to have been working properly. He then went aft to the Accommodation, without throwing a lifebuoy over the side or maintaining sight of the Bosun, so that he could call the Bridge by phone since he had not received any response over VHF radio. This resulted in a significant delay in the deployment of any lifesaving devices to aid the Bosun and the difficulty in locating him.

PPE

The PPE matrix included in the Company's SMS did not accurately reflect all the PPE required to be used when working over the side. The matrix required that all crewmembers wear a boiler suit, safety shoes, safety helmet, gloves, safety harness, and lifeline. In addition to these items, the Permit to Work Over the Side required all involved crewmembers to wear lifejackets. Neither the Bosun nor the OS were wearing a lifejacket when they tried to raise the pilot ladder. Also, the Bosun did not don a lifejacket, safety harness, or lifeline prior to descending the accommodation ladder.

Safe Work Practices

The SMS contained safe work practices specific to preparing the accommodation and pilot ladders. The safe work practices required that a Permit to Work Over the Side be issued prior to starting the task. A Permit to Work Over the Side was issued for the initial preparation of the accommodation and pilot ladders while alongside the berth. The C/O, Bosun, and OS all participated in this work and were aware of the Permit to Work Over the Side. However, a Permit to Work Over the Side was not issued for adjusting the pilot ladder during outbound transit. The Company's Permit to Work Over the Side required that all crewmembers involved in the task participate in a Toolbox Talk before starting. This was reportedly completed for the initial preparation but was not completed for the adjustment of the pilot ladder.

The SMS also required that at least three crewmembers be assigned to complete this work. When tasked by the C/O, the Bosun directed the OS to assist him. The two crewmembers attempted to adjust the ladder without the assistance of anyone else.

Additionally, the SMS required that a lifejacket and a lifebuoy, with a lifeline and a self-igniting light, be made ready where the work is being conducted. Following the incident, there was no indication that either of these safety items were ready for use in the event of a fall overboard.

Supervision

In preparation for the disembarkation of the Pilot, the Master directed the C/O to ensure the ladder was ready. The C/O then tasked the Bosun with raising the pilot ladder so that the bottom was 2 m above the water. The

Master and the C/O failed to ensure that the proper safe work practices, including issuing a Permit to Work Over the Side, were followed before the work started.

Stop the Job Authority

The Company's SMS includes a Stop the Job policy which provides the authority for any crewmember, regardless of rank, to take actions to stop unsafe acts or conditions. Familiarization with the policy is included in the initial onboard familiarization training, which all involved seafarers had completed. However, the authority to stop unsafe work was not exercised by the Master, C/O, Bosun, or OS and indicates that it may not have been fully implemented on board.

PART 4: CONCLUSIONS

The following Conclusions are based on the above Findings of Fact and Analysis and shall in no way create a presumption of blame or apportion liability.

1. Causal factors which contributed to the Bosun's fall overboard and subsequent death:
   (a) failure to wear a lifejacket, safety harness, and lifeline while working over the side as required by the Company's SMS;
   (b) failure to comply with the Company's safe work practices by not issuing a Permit to Work Over the Side, not conducting a Toolbox Talk, not assigning an adequate number of crewmembers, and failing to make ready emergency equipment prior to working over the side while adjusting the pilot ladder;
   (c) inadequate supervision of the assigned task; and
   (d) inadequate onboard implementation of the Stop the Job authority.
2. Additional factors identified during the Administrator's marine safety investigation include:
   (a) the inappropriate initial response to the Bosun falling overboard by failing to immediately deploy a lifebuoy and failing to maintain sight of the Bosun;
   (b) the PPE matrix in the Company's SMS did not indicate that a lifejacket was required while working over the side, contrary to the Company's Permit to Work Over the Side; and
   (c) inadequate communication between the Bridge and crewmembers working on deck.

PART 5: PREVENTIVE ACTIONS

In response to this very serious marine casualty, the Company has taken the following Preventive Actions.

1. The crew of DELICATA was provided additional training on the Company's safe work practices and the proper use of PPE.

2. The requirement to wear lifejackets for certain tasks have been added to the Company's PPE matrix so that it aligns with the safe work practices.

3. The lessons learned from this incident have been shared with all ships in the Company's managed fleet.

PART 6: RECOMMENDATION

The following Recommendation is based on the above Conclusions and in consideration of the Preventive Actions taken.

It is recommended that the Company review and update, as necessary, the training procedures relating to the actions to take in the event of a person falling overboard.

The Administrator's marine safety investigation is closed. It will be reopened if additional information is received that would warrant further review.