



SAFETY INVESTIGATION REPORT

202009/018

REPORT NO.: 20/2021

September 2021

The Merchant Shipping (Accident and Incident Safety Investigation) Regulations, 2011 prescribe that the sole objective of marine safety investigations carried out in accordance with the regulations, including analysis, conclusions, and recommendations, which either result from them or are part of the process thereof, shall be the prevention of future marine accidents and incidents through the ascertainment of causes, contributing factors and circumstances.

Moreover, it is not the purpose of marine safety investigations carried out in accordance with these regulations to apportion blame or determine civil and criminal liabilities.

NOTE

This report is not written with litigation in mind and pursuant to Regulation 13(7) of the Merchant Shipping (Accident and Incident Safety Investigation) Regulations, 2011, shall be inadmissible in any judicial proceedings whose purpose or one of whose purposes is to attribute or apportion liability or blame, unless, under prescribed conditions, a Court determines otherwise.

The report may therefore be misleading if used for purposes other than the promulgation of safety lessons.

© Copyright TM, 2021.

This document/publication (excluding the logos) may be re-used free of charge in any format or medium for education purposes. It may be only re-used accurately and not in a misleading context. The material must be acknowledged as TM copyright.

The document/publication shall be cited and properly referenced. Where the MSIU would have identified any third party copyright, permission must be obtained from the copyright holders concerned.

MV YSALINE **Serious injury to crew member** **Zeebrugge** **Belgium**

20 September 2020

SUMMARY

On 20 September 2020, *Ysaline*, a 50,443 gt, roll-on roll-off vessel was berthed at the port of Zeebrugge, Belgium. She was scheduled to load wheeled cargo.

At around 1240, whilst preparing an hoistable car deck, one of the crew members lost balance and fell from a height, fracturing his left patella and distal radius and scaphoid. He was discharged from the ship

and was transferred to a local hospital for treatment.

The Marine Safety Investigation unit (MSIU) concluded that in all probability, the crew member standing inside the wooden box lost his balance and toppled from a height.

In view of the action taken by the Company, no recommendations have been made by the MSIU.



FACTUAL INFORMATION

The vessel

Ysaline was a Maltese-registered roll-on roll-off (ro-ro) vessel of 50,443 gt. She was built in South Korea in 2019 by Hyundai-Mipo Dockyard Co. Ltd. The vessel's registered owners were Shiplux XIII S.A and was managed by Anglo Eastern Ship Management (NL) B.V, Netherlands. *Ysaline* was classed by Det Norske Veritas–Germanischer Lloyd (DNV-GL). The vessel had a length overall of 216.47 m, a moulded breadth of 32.26 m, and a deadweight of

20,350 tonnes. The arrangement of the cargo space in the vehicle decks enabled the carriage of wheeled freight. A general arrangement plan of *Ysaline* is shown in Figure 1.

Ysaline was powered by a Hyundai-Man B&W 7S50ME-C9.5 slow speed, internal combustion diesel engine, producing 10,800 kW at 114 rpm, and driving a single variable pitch propeller. The estimated speed of the vessel was 18 knots.

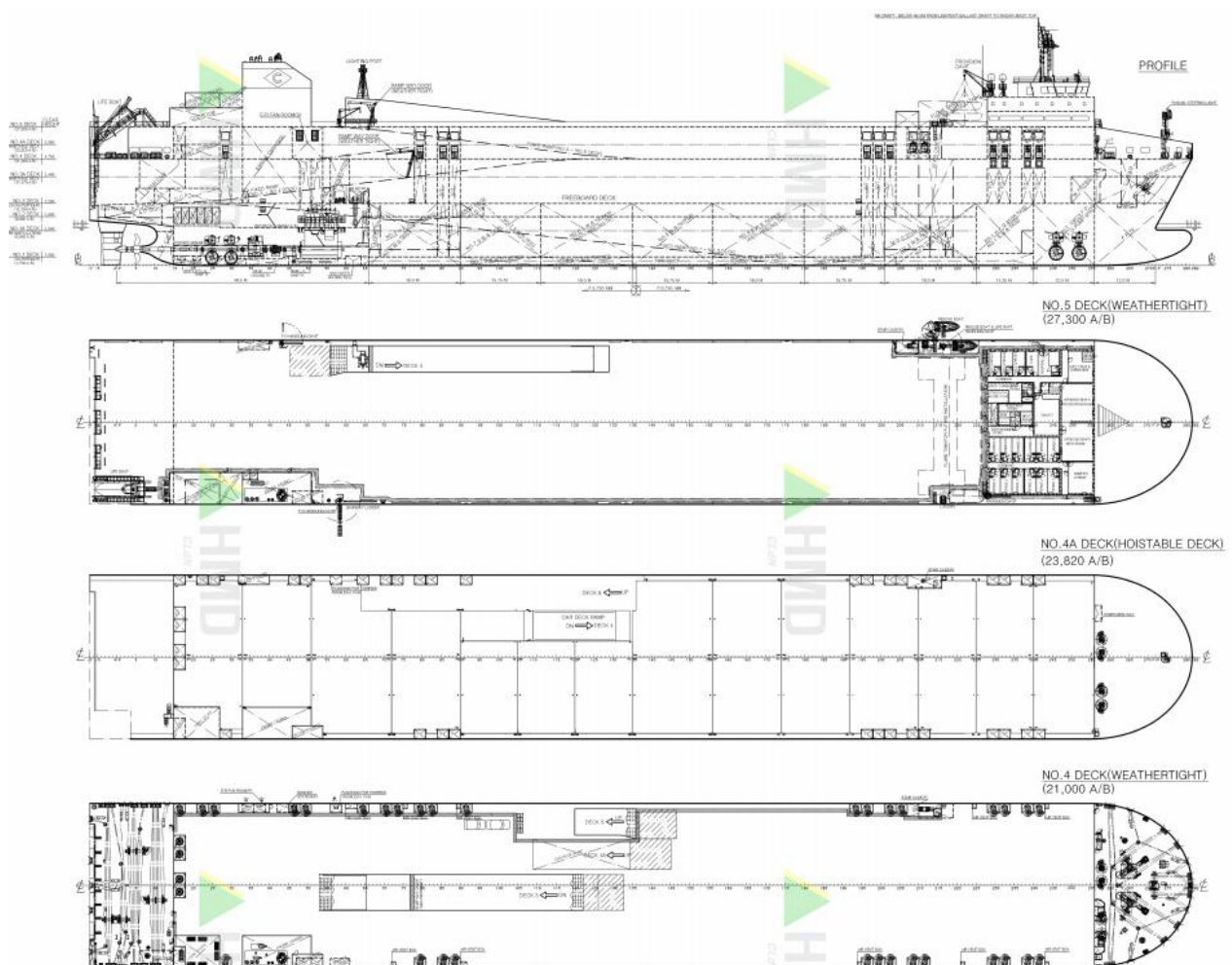


Figure 1: General arrangement plan showing vehicle decks 4 and 5, and hoistable deck no. 4A

Crew

Ysaline's Minimum Safe Manning Certificate stipulated a crew of 14. There were 25 crew members from Ukraine on board. The chief officer was 35 years old. He started his sea career in 2007. He had joined the Company in 2011 and obtained his STCW II/2 Certificate of Competency in 2018. He embarked *Ysaline* on 11 June 2020 as a first officer. A month later, he was promoted to chief officer.

The bosun was 50 years old. He had been working at sea for 22 years, 17 years of which as a bosun. He was in possession of STCW II/5 (Able seafarer deck), demonstrating minimum standards of competence as able seafarer. The injured able seafarer started his career at sea in 2004. He had obtained his STCW II/5 in 2015. Both the bosun and the able seafarer had joined the vessel in Zeebrugge on 11 June 2020.

Environment

At the time of the accident, the weather was clear with visibility up to eight nautical miles. A gentle breeze was blowing from the Northeast. The sea was calm, and the air temperature was 17 °C.

Narrative¹

On the morning of 20 September 2020, *Ysaline* was alongside at berth 121 in Zeebrugge, Belgium. The hoistable car deck 4A was lowered in position for cargo operations. Between 1100 and 1200, *Ysaline* shifted to berth 613, following which, at around 1240, the crew commenced the installation of safety railings. The railings were stowed at a height, on deck level 4A on the port side, about 20 m away. In the meantime, the chief officer was preparing the pre-load plan in the cargo office.

¹ Unless otherwise stated, all times are ship's time (UTC + 2).

At 1250, the chief officer was on site to inspect the car deck. He saw one of the able seafarers standing inside a wooden box² on the forklift (Figure 2). The forklift was on deck no. 4. The able seafarer was collecting the railings, the bosun³ drove the forklift just below the aft section of deck no. 4A. With the able seafarer still in the box, he lifted the box about two metres to reach car deck no. 4A (Figure 3). It was at this time that after delivering the railings to another seafarer on deck no. 4A, the able seafarer turned around, and fell off the box. The wooden box also fell behind him.

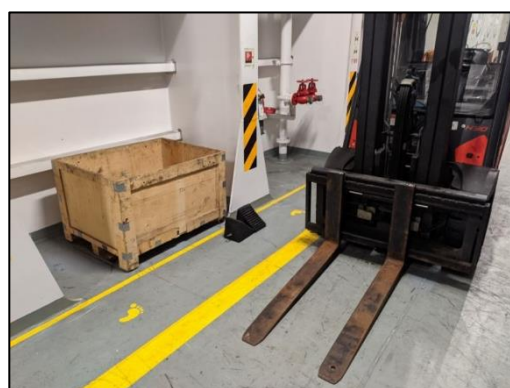


Figure 2: Photo showing wooden box and forklift used for moving safety railings to deck no. 4A.



Figure 3: Simulated photo showing deck 4, hoistable car deck 4A, and position of crew members prior to the accident.

² The dimensions of wooden box were 1110 mm in length, 860 mm wide, and 710 mm high.

³ It was reported that the bosun was duly licensed to operate the forklift.

Nature of injuries

The chief officer, who was 20 m from the accident site, heard the commotion and rushed to the able seafarer, who complained of pain on his left knee. The chief officer assisted the able seafarer, and an ambulance was called to take him to a local hospital for treatment. The doctor examined the injuries and diagnosed a fractured left patella, left distal radius and the scaphoid (wrist). He was prescribed analgesics, advised to rest and surgery to his left knee. The able seafarer was signed off the ship and repatriated home for further treatment.

ANALYSIS

Aim

The purpose of a marine safety investigation is to determine the circumstances and safety factors of the accident as a basis for making recommendations, and to prevent further marine casualties or incidents from occurring in the future.

Fatigue, drugs, and alcohol

Immediately following the accident, the injured seafarer was reportedly tested for alcohol. The results were negative. Analysis of the crew member's record of hours of rest and work showed that during the days preceding the accident, they had daily rest periods in excess of the minimum hours stipulated in the MLC and STCW Convention. In the absence of behaviour which would suggest intoxication and/or fatigue, fatigue, alcohol, and drugs were not considered to be contributing factors to this accident.

Probable cause of the fall

Evidence available to the MSIU showed that the able seafarer was wearing his PPE which consisted of working overall, safety shoes, gloves, safety helmet, and a high visibility vest. The MSIU did not come across any

explanation as to the cause of the able seafarer's fall. Considering that there was no evidence of sudden or unexpected movement of the forklift and the vessel was found, the safety investigation thus did not exclude the possibility of loss of balance when the seafarer suddenly turned around (after the railings had been off-loaded), causing him and the box to topple over on the hard surface of the deck below.

The acceptance of risks

Documentary evidence showed that the hoistable decks on board were used once in about six months. On calling the crew to prepare the hoistable deck, the chief officer neither anticipated a deviation from the established working procedures nor felt the need to issue any specific safety instructions regarding railings, which were intended to minimize the hazards associated with the loading of cars and movement of people.

On this occasion, a cherry-picker which is ordinarily used for working aloft was not available. The crew members chose to use one of the forklifts carried on board and physically hand-over the railings, rather than deposit the box (with railings) or drive up the ramp to the car deck. This work method agreed by the crew members seemed to be a much more convenient and quicker option of finishing the task. This, however, exposed the able seafarer to significant risks.

It is unclear if the competing demands of cargo operations and the crew signing off that afternoon had any influence to employ this work method. It was very likely that the probability of a fall was perceived to be extremely low. Perception, which is a cognitive function, may have biased the intrinsic risk, impacting the assessment of risk either to an underestimation of the actual risk and / or an overestimation of one's personal ability. The chief officer, who was essentially preoccupied with cargo operations, casually observed the crew, and

may have likewise perceived the crew actions having an insignificant risk element.

Their perceived risk assessment was evidently low, and it was this risk that in the end materialised in an accident.

CONCLUSIONS

1. In all probability, the crew member standing inside the wooden box lost his balance and toppled from a height.
2. Hoistable car decks were infrequently used for cargo operations.
3. A cherry picker was not available. The crew members therefore opted to engage one of the forklifts to transport safety railings to the hoistable car deck.
4. Perception, which is a cognitive function, may have biased the intrinsic risk, impacting the estimation of risk either to an underestimation of the actual risk and / or an overestimation of one's personal ability.
5. Fatigue, alcohol, and drugs were not considered to be contributing factors to this accident.
6. The able seafarer was wearing his PPE, consisting of working overall, safety shoes, gloves, helmet, and high visibility vest.

SAFETY ACTIONS TAKEN DURING THE COURSE OF THE SAFETY INVESTIGATION⁴

During the safety investigation, the Company had taken the following safety actions:

- issued a safety alert to all fleet vessels and prohibited crew riding on the forklift;
- reviewed risk assessment and procedures for lowering and preparing of hoistable car decks;
- conducted training of the crew to carryout tool-box meetings before starting a job.

Recommendations

In view of the action taken by the Company, no recommendations have been made by the MSIU.

⁴ Safety actions shall not create a presumption of blame and / or liability.

SHIP PARTICULARS

Vessel Name:	<i>Ysaline</i>
Flag:	Malta
Classification Society:	DNV-GL
IMO Number:	9823364
Type:	Ro/Ro Carrier
Registered Owner:	Shiplux XIII S.A
Managers:	Anglo-Eastern Ship Management (NL) B.V.
Construction:	Steel
Length Overall:	216.47m
Registered Length:	209.49 m
Gross Tonnage:	50443
Minimum Safe Manning:	14
Authorised Cargo:	Ro/Ro freight

VOYAGE PARTICULARS

Port of Departure:	Dublin, Northern Ireland
Port of Arrival:	Zeebrugge, Belgium
Type of Voyage:	International
Cargo Information:	6,590 tonnes in containers and trailers
Manning:	25

MARINE OCCURRENCE INFORMATION

Date and Time:	20 September 2020 at 13:00 (LT)
Classification of Occurrence:	Serious marine casualty
Location of Occurrence:	Zeebrugge, Belgium
Place on Board	Enclosed cargo space
Injuries / Fatalities:	One injury
Damage / Environmental Impact:	None
Ship Operation:	Alongside
Voyage Segment:	Arrival
External & Internal Environment:	The weather was clear with visibility up to eight nautical miles and with a Northeasterly gentle breeze. The sea was calm, and the air temperature was 17 °C.
Persons on board:	25