BSAFE

INCIDENT CASE STUDY

No.19 | JUNE 2023

FATAL ACCIDENT DURING PILOT TRANSFER

AN INCIDENT ON A 2,825 GT GENERAL CARGO SHIP RESULTED IN THE FATALITY OF A SEA PILOT DURING A ROUTINE PILOT TRANSFER AS THE VESSEL WAS OUTBOUND.

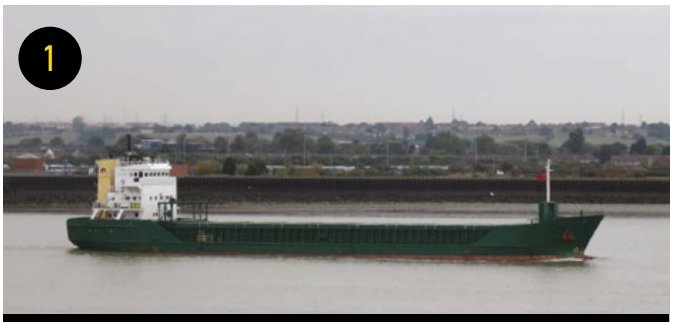

FIGURE 1 CARGO VESSEL IMAGE
SOURCE MARINE ACCIDENT INVESTIGATION BRANCH – GOV. UK: ANNUAL REPORT 21/2017

FIGURE 2 PILOT LAUNCH
SOURCE MARINE ACCIDENT INVESTIGATION BRANCH – GOV. UK: ANNUAL REPORT 21/2017

WHAT HAPPENED

The river pilot had boarded the vessel at berth by stepping on to the main deck of the general cargo vessel via an open deck gate. An instruction was then given to rig the port side pilot ladder to prepare for the sea pilot boarding further down river.

The vessel then departed from berth. After about two hours the vessel was approaching Gravesend Reach on an easterly course at a speed of about 10.4 knots.

The cargo vessel was put on manual hand steering and the speed was reduced to 6-7 knots in preparation for the sea pilot boarding. The pilot launch boat then came alongside with its starboard bow resting against the vessel's hull just forward of the pilot ladder and in line with the deck gate.

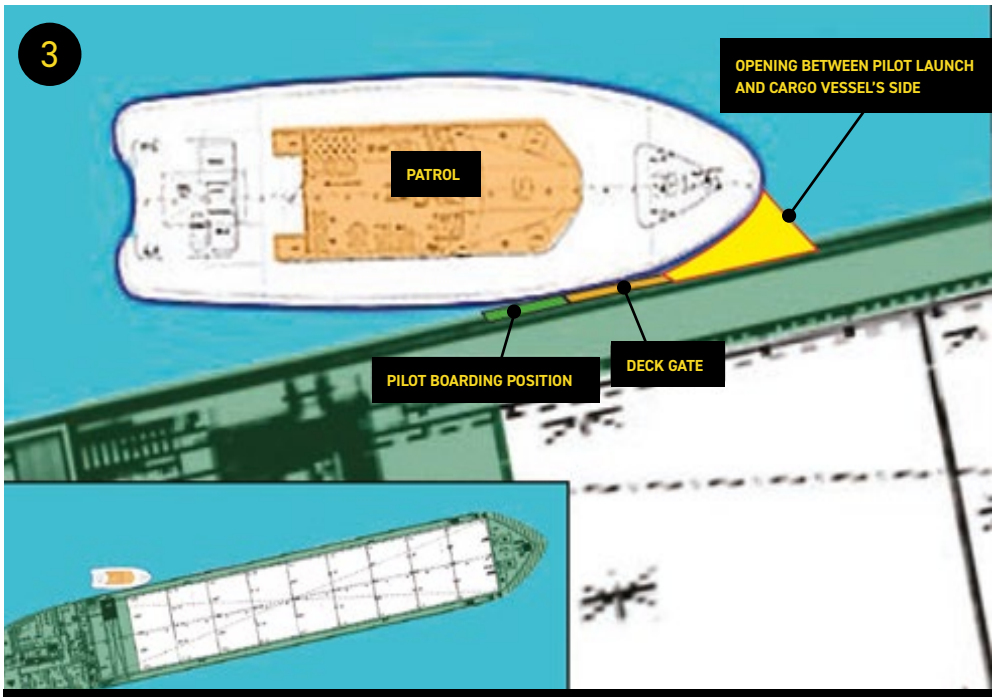

FIGURE 3 REPRODUCED IMAGE OF PILOT LAUNCH ALONGSIDE CARGO VESSEL
SOURCE MARINE ACCIDENT INVESTIGATION BRANCH – GOV.UK: ANNUAL REPORT 21/2017

The vessel and pilot launch boat agreed to postpone the transfer until an inbound vessel had passed. Subsequently the vessel manoeuvred to create lee for the pilot launch to approach. As the wave height was about 2 metres the freeboard between the two vessels varied between 30cm to 130cm as the vessels moved up and down.

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WHAT HAPPENED (CONTINUED)

The sea pilot decided to grab hold of the deck gate's upright stanchion with both his hands in an effort to lift his right foot across onto the cargo vessel's deck but, when trying to step up and cross over to the cargo vessel, the pilot launch plunged into a trough in the seas. As a result, the pilot was left hanging by his arms. The deck hand on board the pilot launch and deck rating from the cargo vessel immediately grabbed hold of the sea pilot and prevented him from falling into the sea.

However, shortly after the two vessels came together, trapping the sea pilot's legs. As the space between the two vessels opened up again, the deck rating and deck hand managed to pull the sea pilot onto the cargo vessel but he was found to be bleeding profusely from his injuries.

The pilot launch immediately informed the local vessel traffic service (VTS) requesting medical aid. Meanwhile, the crew on board the cargo vessel administered first aid to the sea pilot.

Soon after a shore medical response team boarded the vessel. It was believed that the sea pilot's popliteal artery in his left leg had ruptured during the impact, causing massive blood loss. During attempts to stabilise the sea pilot's condition for evacuation, he suddenly went into cardiac arrest. Although cardio-pulmonary resuscitation (CPR) was given, the sea pilot succumbed to his injuries.

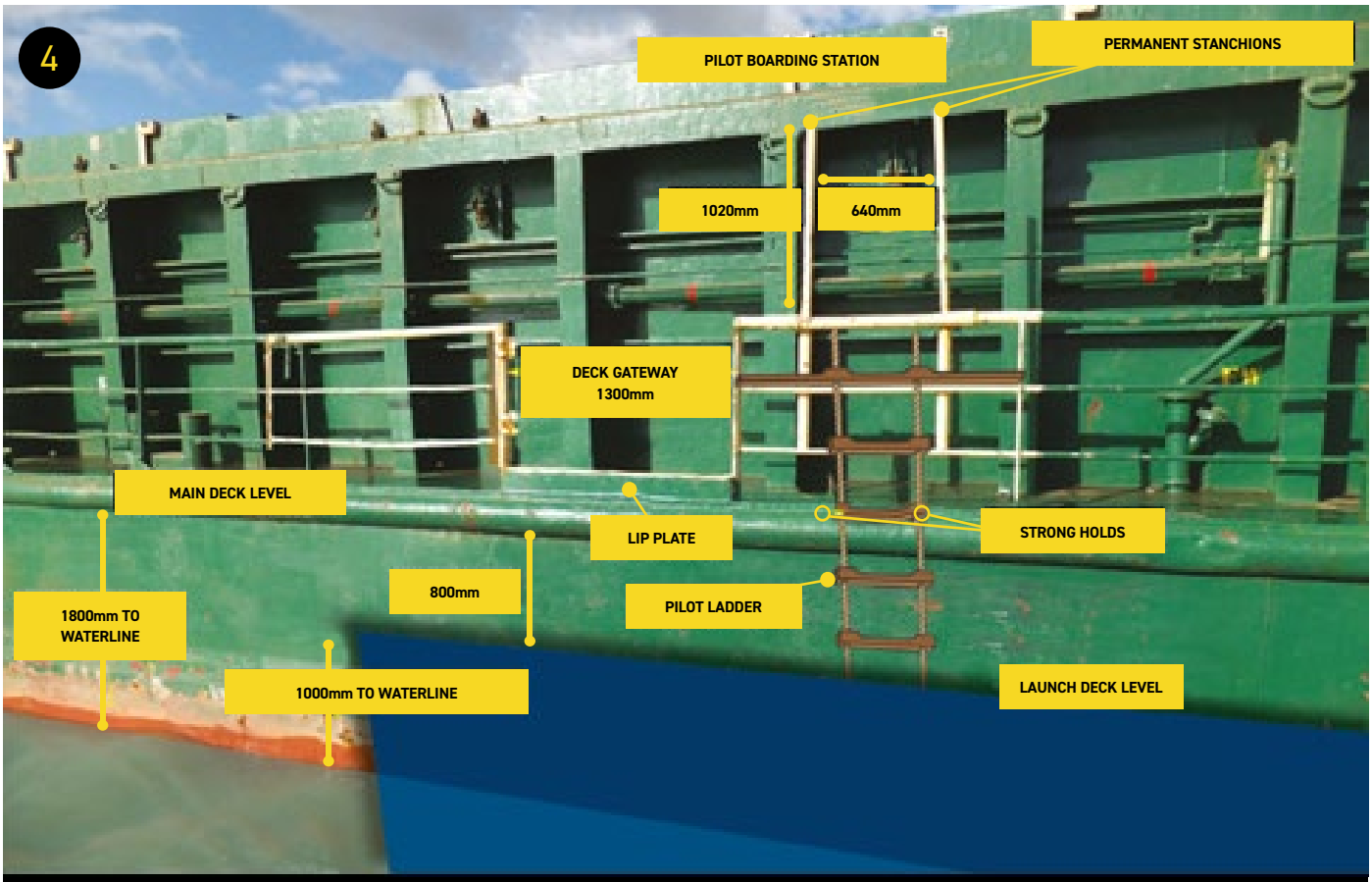

FIGURE 4 REPRODUCED IMAGE OF CARGO VESSEL'S DECK GATE AND PILOT BOARDING ARRANGEMENTS
SOURCE MARINE ACCIDENT INVESTIGATION BRANCH – GOV.UK: ANNUAL REPORT 21/2017

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BRITANNIA COMMENTARY ON INCIDENT

THE FOLLOWING COMMENTARY IS PART OF THE CASE STUDY MATERIAL AND HAS BEEN PREPARED TO CONSIDER SOME OF THE KEY ISSUES. THIS WILL SUPPORT REFLECTIVE LEARNING AND ENABLE DISCUSSION OF SOME OF THE CONTRIBUTORY FACTORS AND LESSONS LEARNED WITH PARTICULAR REFERENCE TO BEST PRACTICES.

THE INVESTIGATION AND RESULTING CASE STUDY IDENTIFIED SEVERAL FACTORS AND LESSONS LEARNED AS DISCUSSED BELOW.

PILOT BOARDING ARRANGEMENTS

This incident appears to be the result of a number of factors. The investigation report found that the transfer of pilots to vessels with a low freeboard, though not uncommon, had not been assessed by the port authority and therefore there were no procedures, specific guidance, or regulations covering the transfer of pilots to low freeboard vessels. In this particular case the cargo vessel when loaded only allowed a freeboard of about two metres for rigging pilot ladders.

It was noted that the pilot ladder could be deployed over the top of the railings and be secured to the strongholds welded on the deck, similar to the function of a bulwark ladder, which could allow the boarding pilot to climb over the rail with the help of permanent stanchions. However, the bulwark ladder was not rigged at the time of incident and instead the deck gate was secured in a fully opened position.

The low freeboard between the two vessels with the short two step ladder may have given the false impression that access via the deck gate would be a safe option for boarding instead of a properly rigged pilot ladder.

According to SOLAS Chapter V, Regulation 23, the following is required for pilot boarding access to the ship's deck:

"a bulwark ladder, two handhold stanchions rigidly secured to the ship's structure at or near their bases and at higher points shall be fitted. The bulwark ladder shall be securely attached to the ship to prevent overturning."

The investigation report did not identify the decision to leave the deck gate open, which was eventually used by the sea pilot to board the vessel, as the primary cause. However, if a responsible officer had been tasked to oversee preparations for the pilot boarding, it is possible that the officer may have identified the deck gate as being unsuitable. This may have meant the deck gate was closed and the bulwark ladder deployed instead.

SOLAS Chapter V, Regulation 23, further dictates:

"All pilot ladders used for pilot transfer shall be clearly identified with tags or other permanent marking so as to enable identification of each appliance for the purposes of survey, inspection and record keeping. A record shall be kept on the ship as to the date the identified ladder is placed into service and any repairs effected."

The investigation found that the deck gate was not part of the designated pilot boarding station but the report did not mention whether the marking was properly done for the pilot boarding arrangements and whether the deck gate was included in the marking.

MANPOWER ALLOCATION

The cargo vessel was on a short international voyage with a minimum safe manning of six persons on board, including the master. At the time of the incident the chief officer was resting after the cargo operations and there was no other responsible officer assigned to monitor the pilot changeover operations. Instead this duty was delegated to the duty able-bodied seaman because there were only two deck officers on board.

According to SOLAS Chapter V, Regulation 23, the rigging of the pilot transfer arrangements should be supervised by a responsible officer:

"The rigging of the pilot transfer arrangements and the embarkation of a pilot shall be supervised by a responsible officer

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BRITANNIA COMMENTARY ON INCIDENT (CONTINUED)

having means of communication with the navigation bridge and shall also arrange for the escort of the pilot by a safe route to and from the navigation bridge. Personnel engaged in rigging and operating any mechanical equipment shall be instructed in the safe procedures to be adopted and the equipment shall be tested prior to use."

It is therefore important to pre-plan the allocation of manpower on board, bearing in mind the work/rest hours of each individual crew member. With proper planning, the master should designate an officer with the necessary experience and communication skills as the responsible officer at the pilot station. This will allow the officer in charge to identify any shortcomings with the pilot ladder arrangements and also relay the situation to the master with regards to the approaching direction of the pilot launch.

DRUG AND ALCOHOL POLICY

The sea pilot's post mortem toxicology report stated that his blood alcohol content was around 122mg alcohol per 100ml of blood, which is more than double the prescribed limit of 50mg of alcohol per 100ml of blood in the context of the UK law (Railways and Transport Safety Act 2003, as amended in 2015). While it may be inconclusive whether this was a contributory factor to the sea pilot's fall, it may have led to a certain degree of incoordination. As it can be difficult to determine whether the person coming on board to work is intoxicated, it is important that the onboard drug and alcohol policy is also communicated to external service providers coming on board. Any visible signs of being intoxicated should be promptly addressed.

SITUATIONAL AWARENESS

When a vessel has low freeboard for boarding and the height is similar to that of the pilot launch, the transfer can be particularly hazardous. This is because the pilot launch will not have enough hull to work alongside. Such situations are more difficult in adverse weather conditions when both the vessel and pilot launch may roll or pitch, creating increased risks for the pilot and crew.

In these situations the master should conduct a risk assessment in a timely manner and decide whether to carry out the pilot transfer when the weather and the seas are more favourable, or to reduce speed or change course.

TRAINING AND EMERGENCY PREPAREDNESS

The report mentioned the deck rating on board the cargo vessel acted quickly to lift the sea pilot onto the main deck and the chief officer also acted quickly to administer first aid to the sea pilot. Although the quick response did not change the outcome of the incident, it still highlights the importance of on board training and emergency preparedness.

Britannia hosted a webinar discussing different aspects that need to be addressed following a marine incident. A recording of this webinar, as well as the presentation slides, can be found on Britannia's website.

CONTACT

For more information on this incident email lossprevention@tindallriley.com

THIS CASE STUDY IS DRAWN FROM THE INVESTIGATION REPORT PUBLISHED BY UK MARINE ACCIDENT INVESTIGATION BRANCH (MAIB).
https://assets.publishing.service.gov.uk/media/59dcba79ed915d493abd4f19/MAIBInvReport21_2017.pdf

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REFLECTIVE LEARNING MATERIAL - FATAL ACCIDENT DURING PILOT TRANSFER

THE QUESTIONS BELOW WILL HELP YOU TO REVIEW THE INCIDENT CASE STUDY EITHER INDIVIDUALLY OR IN SMALL GROUPS. IF POSSIBLE, DISCUSS YOUR CONCLUSIONS WITH OTHERS, AS THIS IS AN EFFECTIVE WAY OF THINKING ABOUT THE ISSUES IN MORE DEPTH.

PLEASE USE THE INFORMATION PROVIDED IN THE CASE STUDY TOGETHER WITH YOUR OWN EXPERIENCES AND THOUGHTS, TO REFLECT ON THE INCIDENT AND HOW THE ISSUES IDENTIFIED MIGHT RELATE TO YOUR OWN SITUATION.

WHAT DO YOU BELIEVE WAS THE IMMEDIATE CAUSE OF THE INCIDENT?

WHAT OTHER FACTORS DO YOU THINK CONTRIBUTED TO THE INCIDENT?

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WHAT DO YOU BELIEVE WERE THE BARRIERS THAT SHOULD HAVE PREVENTED THIS INCIDENT FROM OCCURRING?

WHY DO YOU THINK THESE BARRIERS MIGHT NOT HAVE BEEN EFFECTIVE ON THIS OCCASION?

WHAT PROCEDURES COULD THE VESSEL PUT IN PLACE TO MITIGATE THE RISKS OF PILOT TRANSFER WITH LOW FREEBOARD?

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WHAT COULD HAVE BEEN COMMUNICATED TO THE PILOT LAUNCH PRIOR TO BOARDING TO FOREWARN THE PILOT ABOUT THE LOW FREEBOARD AND ADVISE THE DESIGNATED ENTRY POINT FOR THE PILOT BOARDING ARRANGEMENTS?

WHAT CONTROLLING MEASURES SHOULD THE MASTER PUT IN PLACE TO ENSURE THE ARRANGEMENTS FOR PILOT BOARDING ARE SAFE?

WHAT KIND OF CHANGES IN MANPOWER ALLOCATION DO YOU THINK SHOULD BE IMPLEMENTED TO PREVENT THIS TYPE OF INCIDENT FROM OCCURRING?

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