

MARITIME FEEDBACK



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February 2022

An independent and confidential reporting system for the maritime industry

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The CHIRP editorial

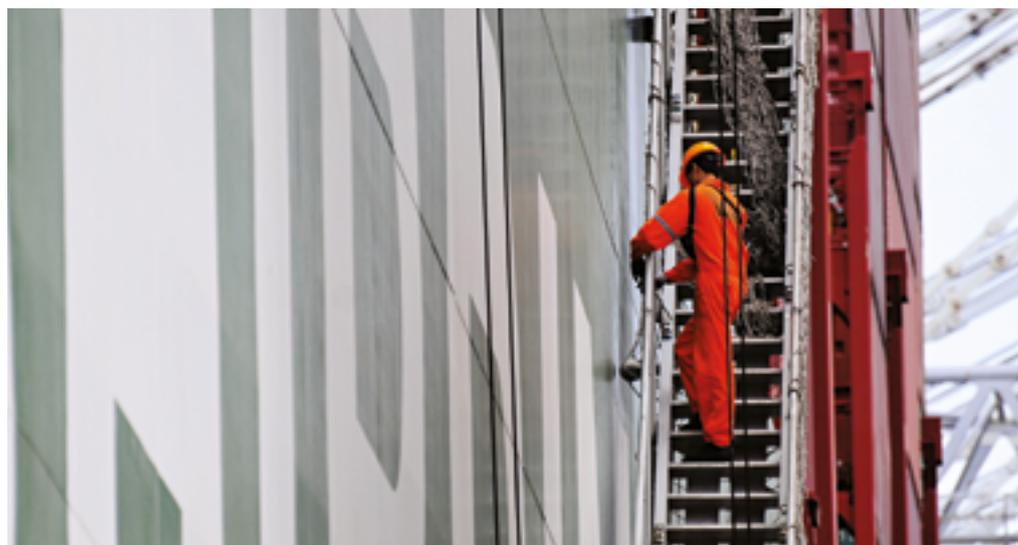
Falls, Fires and Floating Armouries

Adam Parnell
Director (Maritime)

Readers will once again notice the very high standard of the reports we are receiving, which is most encouraging. Our reporters seem to be able to overcome the present difficulties of life at sea to produce reports which are full of valuable safety lessons, and we are extremely grateful. Without them, our work would be impossible.

There are a number of themes running through this edition. Working at heights is pertinent to reports about the maintenance of accommodation ladders, a fall from a vertical ladder, and unsafe lifting points on a work boat. Meanwhile, design issues also feature in reports about accommodation ladders, the deck layout on a log carrier, and poor construction standards which dissuaded a crew from doing maintenance.

Poor maintenance is also an issue in reports about accommodation ladders, a floating armoury vessel, a gas tanker fire and the log carrier. At the same time, proper



supervision is a matter of concern in reports about the use of inappropriate knots, vertical ladders, the work boat, and a tragic case of a fatality when working with a tug's messenger line.

Navigation and ship handling also feature, in reports about a berthing operation which went badly wrong, and about converging vessels in the approaches to a port.

All the reports in this edition can teach us valuable safety lessons and will reward careful

We hope you will be inspired to suggest improvements if you notice anything which poses a hazard to you or your colleagues

study. We repeatedly ask you to consider whether there are procedures in place on your own vessel to prevent the type of incidents described by our reporters, and we hope you will be inspired to suggest improvements if you notice anything which poses a hazard to you or your colleagues.

We are publishing this edition during Lunar New Year, so we wish you all good fortune in the Year of the Tiger and, until next time, may all your voyages bring you safely home.



Are you interested in becoming a **CHIRP** Maritime Ambassador?

CHIRP and the Nautical Institute have an established ambassador scheme to raise awareness of our incident reporting schemes and encourage the submission of incident, accident and near-miss reports.

We seek additional volunteer ambassadors programme around the world, especially in China, Cyprus, Indonesia, the Philippines, Spain and the USA.

As an ambassador you will join an international network of seafarers who also share your passion for safety, and you will quickly gain a broad knowledge of current safety issues. These are great additions to your CV and increase your employability.

Together we can promote the development of a 'just' reporting culture across the maritime sector to improve safety outcomes. The key attributes of a successful ambassador is a passion for safety and a willingness to speak up for *CHIRP* among your colleagues and contacts.

If this sounds like you, please contact us to discuss this opportunity at mail@chirp.co.uk

www.chirpmaritime.org

M1852

Accommodation ladder fails after pilot embarkation

Initial report

A pilot boarded a ship using a combination rig. After their embarkation, and while the accommodation ladder was being recovered, the wire falls parted, and the accommodation ladder dropped to the sea and trailed in the water as the vessel was underway to the port. The Master alerted the pilot to what had happened when the pilot reached the bridge.

A subsequent inspection revealed that the bolts securing the wire had failed. A full port state control inspection took place the next day following a report on the incident. The accommodation ladder had been inspected by a classification society 18 months earlier.

The Master undertook remedial action with respect to the accommodation ladder and the fall securing.



CHIRP Comment

Pilot boarding arrangements are regularly featured in our Maritime FEEDBACK newsletters. However, the accommodation ladder is often perceived by ships' crews to be less of a risk because it is a robust structure and viewed as a part of the hull's structure. Because of these factors, accommodation ladders can be overlooked when undertaking ladder maintenance, especially items such as the hull fixtures to which the wires are affixed. Like the pilot ladder, it is often difficult for a pilot to fully appraise the safety standards of the accommodation ladder's fittings prior to boarding. This incident shows it is also an area of vulnerability and CHIRP wants to highlight this.

Many vessels, especially bulk carriers and tankers, have accommodation ladders that are positioned on exposed areas of the main deck where heavy seas and spray, combined with cargo residue and dust, can affect the fixtures and fittings and bring about accelerated corrosion. Access is often difficult, hampering inspections and maintenance. Design is a significant latent factor in this incident, which could have had extremely severe consequences for the pilot.

The photographs shown below highlight another failure of a gangway that has just occurred at the time of writing this report where the gangway wire had parted just after the pilot boarded the vessel.

SOLAS regulation II-1/3-9 states that all wires used to support the means of embarkation and disembarkation shall be maintained as specified in SOLAS regulation III/20.4 which states that falls should be 'renewed when necessary due to the deterioration of the falls or at intervals of not more than 5 years, whichever is the earlier'.

Reducing the periodicity for changing the falls to between 18 and 30 months for vessels that have accommodation ladders in these exposed areas should be considered, as should changes to the design for securing the falls. However, thorough maintenance must always be provided to the wires, sheaves and fixtures no matter how difficult the access to the wires may be.



The International Chamber of Shipping's (ICS) publication "[Shipping Industry Guidance on Pilot Transfer Arrangements, Ensuring Compliance with SOLAS](#)" very clearly describes the safe rigging requirements for pilots, including outlining the responsibilities for shore and on board management plus details for rigging of trapdoor arrangements for combination ladders which is described in IMO resolution A.1045(27).

Some shipping companies employ a permit to work (PtW) system for pilot boarding operations and CHIRP strongly urges all companies to consider adopting this idea as best practice: it is not onerous and can easily be added to the SMS. It would provide assurance to pilots that the vessel takes their safety seriously.

Pilots have the right to decline to board vessels offering defective boarding arrangements, which can result in serious delay [and] report ... which could lead to a full port state control inspection with the risk of delay and financial penalties

The ICS publication makes a very important point with respect to human behaviour: "a pilot who has climbed a correctly rigged ladder, and attended by an officer and a deck party, will be in the right frame of mind to give their best attention to the safety of the vessel." In effect, the pilot's integration into the bridge team starts at embarkation, and not when they arrive on the bridge.

Human Factors relating to this report

Capability – Is your team capable of recognising a worn or corroded securing fitting?

Is your management team receptive to suggestions for change for poorly designed equipment? Does your company operate a Request for Change system?

Culture – Is there a culture of checking items of equipment to see if they are fit for purpose before use?

Does your company have a culture which does not operate at the minimum standards and instead sets higher standards? Do you feel that your gangway wires could be changed more frequently given that a person's life is dependent on their condition and strength?

What procedures does your company employ to confirm that the pilot boarding equipment is safe to use? Does your company have a permit to work system for pilot operations?

Local practices – Is the rigging of pilot ladders part of your vessel's Permit to Work system?

M1787

Poor safety standards on floating armoury vessel

Initial report

A security guard working aboard a 50-year-old and 50m LOA floating armoury vessel reported unsanitary and unsafe conditions on board. These vessels provide privately contracted armed security personnel to commercial ships for armed protection while they transit areas of high risk.

Despite having a maximum capacity of 60 people, the floating armoury reportedly carries up to 150, and many are forced to sleep on the upper deck even in rough weather, due to the lack of available bunks. The water in the showers is rusty, there are cockroaches in the food, the electrical wiring is in a poor state of repair and water drips from the cable connections, creating a dangerous fire risk. The lack of an isolation area for Covid cases caused the virus to spread rapidly on board.

Transfers onto and off merchant vessels are made using an inflatable boat, and embarkation is ordinarily by ships' pilot ladders. Transfers take place even in high sea states (6-8m waves) because the merchant ships cannot afford to be delayed, so these transfers are especially risky.

The reporter stated that the floating armoury is resupplied with food and water at sea: it often spends many months in international waters and rarely visits port due to the difficulties of entering territorial waters with guns and ammunition on board.

Because of this, garbage is thrown into the sea, contravening Marpol regulations. The hull was recently punctured, and repaired using quick-drying cement, but is unlikely to be properly repaired for many months until the vessel next visits port.

The reporter approached *CHIRP* because there was no-one else that could help them. The reporter stated that the floating armoury vessels and the private maritime security companies who employ the guards vary in quality. Because there is very little access to the internet on the armoury vessels, they could only contact *CHIRP* once embarked on a merchant ship.

CHIRP Comment

CHIRP raised these concerns with the Master and owners of the floating armoury vessel, who initially said that they

wanted to improve conditions on board. However, no significant changes occurred so *CHIRP* passed the report to the vessel's registered flag state and its classification society, both of whom withdrew registration. This means that the vessel can no longer legally operate at sea until these issues are resolved.

A **report** issued by the United Nations Office for Drugs and Crime (UNDOC) in 2020 highlighted that there are no generally accepted international standards that directly apply to floating armouries, nor is there an overarching industry organisation that can set expected minimum standards to which the companies providing armed guards can adhere. Furthermore, because floating armouries operate in international waters for lengthy periods it is difficult to enforce compliance to national or international regulations because such inspections almost always take place only when the vessel is alongside in port.

Unlike the crews of the floating armoury vessels, the armed guards are not recognised as seafarers under the current IMO definitions, but rather viewed either as "passengers" or "industrial personnel". As such, they have fewer legal protections than the seafarers they work alongside. This, compounded by the competitive commercial environment in which the private maritime security companies operate, reduces the incentive to ensure high safety and welfare standards. *CHIRP* wonders whether there is an expectation that, because of their military backgrounds, armed guards will be prepared to tolerate poor conditions and to accept increased safety risks?

CHIRP intends to discuss the issues raised in this report with both the International Transport Workers Federation (ITF) and the International Labour Organization (ILO) because of the obvious safety risks highlighted.

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Human Factors relating to this report

Fit for purpose – Is the existing international regulatory environment in which private maritime security companies operate fit for purpose? The UNDOC report suggests that this should be reviewed.

Culture – Judging by the vessel's condition, and its safety and welfare standards, there were many longstanding breaches of IMO, ILO and Marpol regulations, which both the Master and the company employing the guards must have known about. This incident raises questions about culture: are commercial pressure and profit being pursued to the detriment of the guards' and crew's safety and welfare? Is this allowed to happen because the guards operate on pseudo-military lines and are thus expected to be task-oriented and tolerant of greater hardships and risks to achieve their aims?

Alerting – The reporter contacted *CHIRP* because they feared that they would lose their job if they raised this issue through their company or with the Master. Likewise, the Master initially said that he wanted to assist *CHIRP* in resolving the issue but ultimately this did not happen – was this for fear of speaking up? Are you in a similar position – if

so, *CHIRP* is interested in hearing from you? Similarly, the ITF and ISWAN can assist with employment issues and welfare.

Local practices – The report highlighted several poor local practices such as throwing rubbish overboard and using the inflatable boat to transfer people to other vessels in high sea states. The condition of the vessel indicates that on board maintenance was similarly inadequate. All these significantly increase the dangers to the safety of people on board and to the environment. The correct procedures should be documented in the vessel's Safety Management System

M1875

Poor choice of knot puts pilot in jeopardy

Initial report

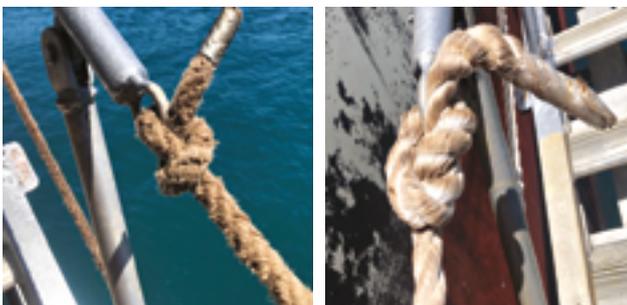
While boarding a vessel at sea a pilot found that the combination ladder was affixed solely by overhand knots (see pictures). These easily unravel if there is strain from the standing part of the rope, e.g., under the weight of a pilot as they ascend or descend the ladder. This type of knot must never be used in the rigging of a pilot ladder or gangway.

CHIRP Comment

The correct knot in these circumstances is either a round turn and two half hitches or a bowline. The rigging of a gangway which is to be used as part of a combination ladder arrangement is a task normally undertaken by 2-3 deck crew. It should then be inspected by the officer detailed to meet the pilot.

The repeated use of overhand knots in this case indicates that either the officer did not correctly supervise and inspect, or that the crew have become desensitized to a deviance from standard procedures: the local practice on the ship or within the company for securing the pilot ladder rope with an overhand knot had become the accepted norm.

Despite being incorrect there appears to be no culture of challenge by the crew or officers to secure the ropework with the correct knot.



Human Factors relating to this report

Capability – Knowing which knot to use in a particular situation is an essential seamanship skill that every deck hand should learn at the start of their career, but in this incident, it appears that neither the crewmember who tied the knot nor those working with them recognised that this was the wrong knot to use. Is this a training gap?

Culture – The wrong knot was used repeatedly but appears not to have been challenged. This is known as a 'normalisation of deviance' which indicates that there is a culture either of acceptance of poor practice or a lack of empowerment to challenge obvious safety deficiencies.

Teamwork – A high-performing team is one where individuals are open to supportive and constructive challenges from other team-members. This ensures that standards are maintained (or even enhanced) and everyone learns from each other.

By contrast, members of poorly performing teams may not speak up either because they lack confidence ("Will I look silly if I'm wrong?") or because they fear reprisals ("Will I get into trouble for speaking up?") or because they don't want to embarrass another team member ("I don't want to get them into trouble"). As a result, opportunities to improve are missed and dangerous situations are created.

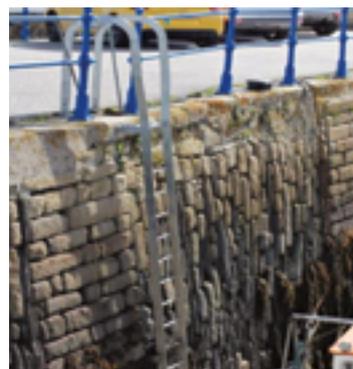
M1877

Fall from vertical quayside ladder has near-fatal consequences

Initial report

A fisher returned to their vessel with a guest in the late evening after they had met ashore. Both had drunk alcohol. It was low tide, and the vessel was approximately 6m below the quay edge due to the tidal range in that port.

As they climbed down the vertical quayside ladder, the guest fell off the ladder and hit the vessel's hull before falling, injured, into the water. The sea temperature was approximately 10° C (50° F).



The fisher was unable to recover the person in the water and entered the water himself in an attempt to keep the guest from drowning.

A crew member from another fishing vessel moored nearby heard the commotion and managed to recover the injured person and the crew member from the water back onto the deck of the fishing vessel. Due to the effects of the cold water and the injuries, the guest was unresponsive and not breathing.

The port authority's security team called an ambulance and commenced CPR on the casualty until the emergency services arrived, but it took over an hour to lift them from the vessel and up the 6m to the quayside and into the

ambulance where they made a full recovery within a few days.

Due to the range of the tide the vessel did not put out a gangway and instead relied on the vertical metal ladder secured to the quay wall. At low tide this generated a significant risk of falling from height and onto the steel deck of the vessel and/or into cold water.

CHIRP Comment

The Master is responsible for ensuring a safe means of access to their vessel. This can be difficult, especially for small vessels that lack the space on board to carry or rig a gangway, or where the tidal range would make the gangway too steep to safely use. In these cases, Masters consider that they have no option but to use the vertical ladders as the only means of access or request a more suitable berth. By contrast, many port authorities view the vertical quayside ladders as 'self-rescue' equipment for anyone who falls into the water. They do not consider them as a safe means of access onto vessels, especially those that lie some distance below the quay edge at low tide. The rules that determine whether it is the port authority or the master that is responsible for providing safe access onto vessels vary by country and are not always clear. *CHIRP* urges regulators in those jurisdictions to reduce the scope for different interpretations wherever possible.

The need to recover casualties from vessels at low tide is reasonably foreseeable, so ports are strongly encouraged to conduct thorough risk assessments to deal with this scenario and develop an emergency recovery plan. This might require the purchase of specialist equipment or the nomination of a suitable 'casualty recovery' berth.

Ports and vessels' masters are also encouraged to ensure that visiting crews are aware of the local arrangements for summoning emergency assistance and can describe their location to the emergency services when doing so.

Human Factors relating to this report

Design (latent factor) – Vertical ladders are exposed to the elements and prone to damage by vessels berthed alongside. There is no fall protection inherent within the design and unless regularly maintained they are prone to rusting and marine growth

Fit for duty – Alcohol increases the likelihood of an incident occurring and *CHIRP* recommends that Safety Management System (SMS) risk assessments include alcohol/intoxication as a factor when appropriate, particularly in cases where access arrangements include a climb up and down vertical ladders.

Local practices – *CHIRP* acknowledges that high tidal ranges preclude the use of gangways, and that many ports lack the space, water, and money to install pontoon berths, so must therefore rely on the use of vertical ladders as the safest means of access.

Is there a shared understanding between the port authority and the vessels regarding who is responsible for providing the means of safe access? This can vary by country and regulatory area. Does your vessel adhere to the local regulations?

Culture – To be effective, there must be a shared safety culture between vessels and port authorities, particularly where regulations on the provision of a safe means of access can be interpreted differently by the port authority

and a vessel's Master. Port safety forums are one way of developing this shared safety culture with everyone working to a shared understanding of risks and their control measures.

Capability – Do ports have the correct equipment to facilitate recovery of a casualty from a vessel at low tide, and is this operation regularly practised?

M1788

Unsafe lifting points for RIB Work Boat

Initial report

A new crew member inspected the ship's lifesaving equipment to familiarise themselves with the equipment on board. They discovered that the lifting eyes in the ship's workboat were damaged and loose, which meant it was not the eyes carrying the load but a length of threaded bar which appeared poorly maintained. If the lifting eyes had failed while the boat was being lifted it could have resulted in serious injury to the two crew members who are ordinarily inside when it is lowered into the water.



CHIRP Comment

The condition of the items in the photographs suggest that neither inspection nor maintenance routines were effective, and that the boat's crew were either unaware that the lifting eyes were in a dangerous condition or did not feel empowered to report their concerns.

The reporter is praised for their exemplary safety attitude and for reporting their concerns, which have potentially averted death or serious injury to their crewmates.

Human Factors relating to this report

Alerting – The initiative demonstrated by the new crew member who discovered the defects is admirable. Is this something that you would consider doing during your familiarisation tour? It could avert a serious or even lethal accident.

Capability – Were the crew members responsible for inspection and maintenance of the sea-boat capable of identifying and reporting the poor condition of the lifting eyes? Does this suggest a training shortfall?

Culture – Was there a culture of poor maintenance on board the vessel – or was it not undertaken? *CHIRP* has previously raised concerns about ‘cultures of compliance’ (where busy workloads or other pressures cause seafarers to falsely sign paperwork to indicate that they had done work even if it wasn’t true).

M1828

Touching bottom while berthing causes rudder damage

Initial report

A loaded tanker (14m draft) entered harbour and approached its berth. The bridge and mooring stations were fully crewed. The pilot embarked and a comprehensive master-pilot exchange took place. All equipment was reported in good condition and working. Two tugs were made fast – one at the bow and one at the stern.

As it passed the mooring dolphin, the vessel turned short round to port, assisted by the tugs. About 5 minutes later the officer at the stern alerted the bridge that the vessel was drifting towards the end of the breakwater. The current was running in an easterly direction during the turn to port, which caused the drift, although the pilot believed that it was running in a westerly direction. The pilot gave several engine orders from dead slow to full ahead to increase the distance from the breakwater, but a noise was heard on the port quarter. Following checks within the engine room to ensure the hull was not breached, the vessel berthed port side alongside at the oil terminal.



An investigation revealed that there were no fatigue issues nor any substance abuse. All equipment was in-class and properly maintained. The passage plan berth to berth was very comprehensive and under-keel clearance (UKC) calculations were prepared and shown to the pilot at the

master-pilot exchange. All navigational equipment relevant to this passage plan was being used and accurate.

The bridge team members were adequately trained for making proper use of all navigational aids, and for being aware at all times of the vessel’s position. The master-pilot exchanged information and pilot card was properly completed and the pilot was fully aware of vessel’s particulars and manoeuvring characteristics.

CHIRP Comment

The vessel was properly attended to by the tugs which were positioned to make a turn to port to align the vessel for a portside alongside berthing. However, the current which was thought by the pilot to be flowing in a westerly direction and would assist the vessel during the turn was flowing in the opposite direction.

Given that the pilot had intimate knowledge of this port and berth and had been briefed on the tide and current conditions, this was a skill-based error. However, it was not challenged by anyone else on the bridge, including the master, nor the masters of the attached tugs. A group-think scenario had developed because everyone placed too much implicit trust in the pilot.

Crucially there was a loss of situational awareness – that the stern was drifting towards the jetty – until this was challenged by the officer at the stern.

Several opportunities to ensure that the pilot and bridge team were equally aware of the environmental conditions were missed. The bridge team would almost certainly have held an entering-harbour brief on approach to the port at which tide and current would have been discussed. The master-pilot exchange provided a second opportunity to discuss the direction of tide. Assuming that the pilot was providing a running commentary to the master as to his intentions (*CHIRP* recognises that this does not always occur, particularly where language barriers exist) then the choice of a turn to port could have been challenged prior to the turn commencing.

Because pilots, masters and officers have different areas of experience and training it is essential that the skills of each be combined into a cohesive working relationship during this critical phase of the passage plan.

Human Factors relating to this report

Teamwork – To what extent was the pilot integrated into the bridge team after the master-pilot exchange, or did the team mentally disengage once the pilot assumed the navigation? Bridge teams can become misled by the incorrect belief that because pilots have the best working knowledge of the port their decisions are automatically right. To counter this, Bridge Resource Management training courses actively promote challenges and questions during the decision-making process to avoid group-think.

Competency – The master retains ultimate responsibility for the safety of the vessel even with a pilot embarked. Effective master-pilot relationships are an important command skill and should be assessed by the company when an officer is selected for command.

Situational Awareness – What steps should the bridge team and pilot have taken to ensure that situational awareness was maintained and to confirm that they were working with the most accurate information?

Alerting – Does the hierarchical nature of bridge teams, and the presence of a stranger (the pilot) discourage junior

team members from raising navigational alerts? Masters are encouraged to promote navigational challenges from their bridge team. Pilots are likewise encouraged to be open to challenge as a means of swiftly building an integrated bridge team.

M1878

Fatality: crew member caught by rope during mooring operations

Initial report

The reporter informed *CHIRP* that a tanker was approaching the berth under pilotage with the assistance of tugs. The forward tug was to be released from the tanker's bow prior to the vessel turning to starboard. The eye of the towing line was secured to the bitts on the forecandle and had a long messenger rope attached to it. The tug's line was slackened to facilitate its release.

An ordinary seaman (OS) eased the tug's mooring rope out through the closed chock (Panama lead) and had taken a turn of the messenger rope around the bitts. As the tanker turned to starboard to align itself with the berth the tug's line was in the water and as the separation between the tanker's bow and the tug increased, the messenger line paid out at an increased speed which was not anticipated by the line handlers.

The officer in charge of the mooring operation warned the OS to step clear from the messenger rope. The OS attempted to do so but slipped on the deck and became entangled with the rope which dragged him overboard through the Panama chock. The OS was recovered from the water by the tug and resuscitation and first aid was immediately administered until the ambulance took them to hospital. Tragically the OS died the next day.



CHIRP Comment

This tragedy highlights the risks associated with all types of mooring operations.

Although SMS manuals detail how mooring should be conducted, they may not highlight that handling of mooring lines including messenger lines can quickly get out of control if they are not properly secured against the effects of gravity or the dynamic interaction between the tug and the vessel.

The officer in charge must always try to anticipate changes in the loading on the lines and have the crew stand in a safe position away from any potential danger. A tug's

line and attached messenger should always be recovered on board the tug before it starts moving away.

The forward and aft mooring decks on any ship are classified as high risk zones and have associated risks during mooring operations. The management of the mooring lines requires a very high level of attention by the crew handling the lines as well as the officer responsible for the mooring operation.

A full safety brief should always take place before mooring operations commence, including clear instructions to be followed in normal and emergency scenarios. Mooring operations must never be rushed as this can lead to actions being taken which are not thought out clearly. In this case the OS slipped and fell while attempting to get to a safer location, which tragically led to their death.

Human Factors relating to this report

Situational Awareness – Mooring operations can evolve rapidly and maintaining situational awareness during mooring operations is vital to ensure that everyone remains safe. Anticipation is key: lines can unexpectedly become taut or even break, creating a lethal snap-back hazard; winch brakes can fail or ropes be pulled overboard due to the relative motion of the vessel and the tug or bollard ashore.

Teamwork – This tragedy appears to show that the OS operated alone while handling the tug's line? How many crew do you think should have been handling this tugs line?

Capability – A high degree of seamanship skill is required during mooring operations. During your mooring operations do you always have the right level of competence to carry out safe mooring operations? If you do not, have you raised this matter with management?

M1798

Smoke inside Bosun's Store on LPG tanker

Initial report

As a laden LPG tanker prepared to depart a berth with a pilot embarked, smoke was detected in the Bosun's store in which the motors for the hydraulic winches were housed. The motors were immediately stopped using the remote shut-off controls and the Master immediately suspended the unberthing operation to allow the alarm to be investigated.

Once the smoke had cleared it was discovered that loose screws were allowing lubricating oil to leak onto the hot motor which started to combust. To enable the vessel to sail, the Master allowed the winches to be restarted for a very short time to allow mooring ropes to be slacked off before the motors were once again stopped. The ropes were recovered by hand. Keeping the winch switched off was the only sensible precaution to avoid a significant fire or explosion.

After the vessel had departed the port, full cleaning was carried out to thoroughly investigate where the source of the leakage had come from. The engineers carried out maintenance on the winch hydraulic pumps and replaced the gaskets to prevent further leakage.

The reporter stated that this incident was the result of a near-miss being ignored for a long time, with maintenance



The potential consequences of an explosion on a laden LPG tanker in a port are obvious

not being done properly because the ship's staff believed that the new ship was poorly built.

CHIRP Comments

This incident reinforces the power of acting on near-miss reports. *CHIRP* was informed that the crew had known about the loose screws prior to the incident but had not tightened them. If they had, the fire would not have occurred. Fortunately, the fire was immediately extinguished but the potential consequences of an explosion on a laden LPG tanker in a port are obvious.

The comments about the vessel's build quality cannot be substantiated, but *CHIRP* acknowledges that a crew's belief that their vessel is poorly built can significantly erode morale and could result in a culture of not caring about the material condition of the vessel. However, the speed with which the loose screws were fixed shows that this repair was easily within the crew's capability. The fact that they had not been fixed suggests that the inspection and maintenance routines on board were not being properly carried out and furthermore indicates that supervision was also lacking.

Readers are invited to contrast this report with M1761 (published in *Maritime FEEDBACK* 64) in which a replacement Master and crew took over a vessel with many defects but immediately took ownership of the vessel's condition and worked to fix all the engineering and documentary shortcomings.

Human Factors relating to this report

Culture – Whether or not the crew's belief that the build quality of the vessel was sub-standard was correct, they believed it to be the case, and such concerns must be taken seriously and properly addressed. Crew morale can significantly impact the quality of work undertaken. In this instance the consequences could have been horrific: significant loss of life on board and in the port, considerable infrastructure damage and a major environmental pollution incident. Readers who are in management positions are encouraged to consider how they would address similar concerns from their crews to ensure that morale and pride can be maintained?

Alerting – Convincing busy crews of the value of near-miss incident reporting is difficult because a near-miss does not result in injury or damage. But such reports offer valuable insights into what *could* happen in the future if they are not acted upon. In this incident, the consequences could have been enormous. In general, people are reluctant to report near-misses because they do not like to admit mistakes. To improve near-miss reporting, managers need to encourage and celebrate those who make reports, make the reporting system as easy and user-friendly as possible, and (most importantly) take every report seriously and act on it as appropriate.

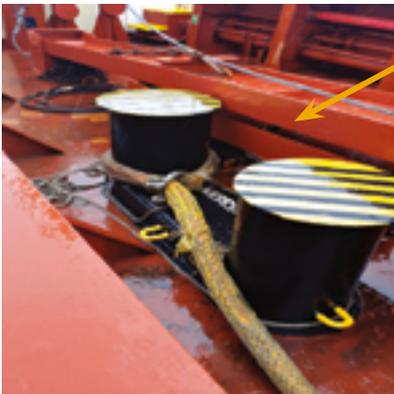
CHIRP published an in-depth report on the value of near-miss reporting in its *Annual Digest 2020* which readers can find on our website.

M1866

Deck layout: hazardous by design!

A lumber carrier embarked a pilot as it approached a loading berth where a tug waited to assist. The pilot requested that the vessel secure the tug's line to the mooring bits on the forward deck. After this was achieved, and as the tug came under the line to push up, the tug master realised that his line had been improperly secured: it had been wrapped around the bits and secured with a shackle, rather than the eye being dropped over the top of the bits.

When questioned the master explained that, when lowered, the log stanchions were so close to the bits that they obstructed the bits. The master was informed that they should not use a shackle in future, and that the bits should not be used when the log stanchions were lowered.



Log stanchion in lowered position

CHIRP Comment

The vessel is relatively new, and the deck layout has not been modified since she was built. This suggests that the improper placement of the log stanchion and mooring bits is the product of poor design. This is known as a latent error, and CHIRP believes that there is a high probability that incidents will continue to occur on the vessel because the mooring bits cannot correctly and safely be used as intended. The likelihood of an incident is further increased because of the proximity of the bulwark brackets which create a trip hazard.

The trip hazard and inability to correctly work the mooring bits are evident, and CHIRP is concerned that these had seemingly not been detected either during commissioning trials, during flag and class inspections, or by the crew themselves. CHIRP is also concerned that other vessels of the same design might also contain the same latent design hazards.

Human Factors relating to this report

Design (latent factor) – Eliminating poor design from ship construction requires an experienced design team who can understand human centred design and make life easier for those that have to work with the equipment. Removing poor design will improve safety for the crew, ship and environment and lead to better productivity over the life of the ship.

Capability – Was the naval architect aware of the ergonomic implications of placing the items too close together, and the trip hazards created by the bits being placed so close to

the bulwark brackets? If compromises were made due to the lack of space, were these highlighted in the construction and use documents so that they could be brought to the crew's attention?

Culture – Did the company's safety reporting culture empower the crew to report design issues and other concerns? Was there a culture of reporting on this vessel?

Many well-run companies operate a top-down and bottom-up culture where the voices of those that must operate equipment can be heard and something is done about their concerns. Does this describe your organization?

Communications – Did the crew feel empowered and confident to raise concerns about the design of the deck layout? Did they believe that their report would be acted upon, or did they feel that their concerns would be discounted?

M1809

Breach of the Collision Regulations Rule 15

Initial report

As a vessel approached a harbour at night in good visibility, an OOW detected a second vessel 9nm on their port side which was also heading for the port. Radar plotting showed that the second vessel would cross their bow at only 0.3nm – a close quarters situation in which the second vessel was the give-way vessel according to the Collision Regulations.

The lookout in the first vessel (the stand-on vessel) kept a close watch on the give-way vessel, which appeared not to be taking action to avoid collision in accordance with the Collision Regulations, so the OOW called the give-way vessel on VHF to request the give-way vessel's intentions. It became evident during the call that there was little monitoring of the situation from the give-way vessel. After a while the OOW of the give-way vessel stated he would like the stand-on vessel to "just keep going" and cross his stern.

The OOW of the stand-on vessel was not happy with this reply and stated that they would maintain their course and speed and asked the give-way vessel to take early and effective action in accordance with the Collision Regulations. The OOW of the give-way vessel said "OK, I will do my best to keep clear"

The OOW in the stand-on vessel monitored the situation for another 3 minutes by which time the range between the two vessels had reduced to 2nm. It was apparent that the give-way vessel was not taking any action so the OOW in the stand-on vessel altered course 40° to starboard to parallel the second vessel's course, and reduced speed to 4 knots. To avoid any chance of miscommunications, no further radio calls were attempted.

The action by the OOW resulted in the second vessel passing clear at a range of 1.7 nm down their port side. Once the give-way vessel was safely past and clear, the stand-on vessel resumed her course and increased speed.

Using ECDIS it was confirmed that the give-way vessel had not taken action to keep clear as agreed on the VHF.

CHIRP confirmed with the reporter that they had not made use of their signalling lamp or ship's whistle during the incident, nor were compass bearings taken of the give-way vessel during this crossing situation.

The reporter has highlighted a breach of the collision regulations and was particularly concerned that the give-way vessel took no action to keep clear and pass at a safe distance despite having agreed to do so.

CHIRP Comment

CHIRP applauds the OOW in the stand-on vessel for maintaining a proper lookout and taking decisive action to avoid the risk of collision. However, CHIRP strongly discourages the use of VHF for the purposes of avoiding collision because of the risks of miscommunication or misinterpretation by either vessel which can inadvertently increase the risk of collision. Moreover, the use of VHF can tempt vessels to make ‘arrangements’ that deviate from the Collision Regulations (which provide clear requirements for the stand-on and give-way vessels).

In this case, the two power-driven vessels were in sight of one another and crossing so as to involve risk of collision. In this scenario, Rule 15 required the give-way vessel to “keep out of the way and ... avoid crossing ahead of the other vessel” and Rule 16 required the give-way vessel to “take early and substantial action to keep well clear.” They do not, however, stipulate a minimum separation distance that the give-way vessel must maintain. The rules do allow either vessel, if it is in any doubt as to the other’s intentions or actions to “indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.” The rules also allow the stand-on vessel to take action under Rule 17(a)(ii) “by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.”

The reporter stated that the OOW on the give-way vessel appeared not to have recognised that a risk of collision was developing and CHIRP wonders if fatigue was a factor in this incident.

CHIRP contacted the give-way vessel’s company which investigated the incident and determined that their vessel had not acted in accordance with the Collision Regulations

(COLREGS). The company instigated a series of training briefs for the fleet which included a full review of the incident, focus on the application of the master’s standing orders, the use of effective communications in accordance with the COLREGS and summoning the master to assist when there is doubt about a navigational situation. CHIRP wishes to thank the company for their demonstration of a “just culture” approach in managing this incident report.

Human Factors relating to this report

Situational awareness – Did fatigue impair the ability of the OOW in the give-way vessel to correctly determine that a risk of collision was developing? Was the OOW comfortable with a crossing distance of only 0.3nm?

Communications – Communications given over the VHF have a degree of risk especially if the communication is not clearly understood by the vessel receiving the call. Similarly, confusion will arise if the message is not clear, concise, and positive from the person making the call. Additionally, and often overlooked, is the time that it takes to make a call - valuable reaction time is lost. CHIRP cautions against using VHF as a matter of course.

Alerting – CHIRP encourages the use of the light and sound signals as permitted in the COLREGS in preference to VHF for the purposes of avoiding collision. The use of a directional signalling light for a give-way vessel where there is doubt about the intentions of the give way vessel has high impact on the receiving vessel and cannot be confused, similarly with using a ship’s whistle.

Masters’ standing orders should make the requirement to call the master clear and unequivocal. How clear are your master’s standing orders? Does your new joining master explain the orders to all officers at the start of their command?

Culture – Was there an on board culture that to seek advice was looked upon as a sign that you could not do your job, and therefore was there was a reluctance to call the master?

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CHIRP Maritime – the voice of the mariner

Who are CHIRP and what do they do

The CHIRP (Confidential *H*uman Factors *I*ncident *R*eporting Programme) Charitable Trust has provided a totally independent and confidential safety reporting system to seafarers worldwide since 2013, complementing the reporting system it has offered to the UK aviation industry since 2003. By publishing our analysis of received incident and near-miss reports we raise awareness of safety issues and contribute to improved safety outcomes through all sectors of the maritime industry.

What is the purpose of CHIRP?

Our programme complements (but does not replace) existing statutory, company or other organizational incident reporting systems by providing a voice to those mariners who feel that they cannot otherwise speak out, or feel that their concerns have not been heard. We are the voice of the mariner, concerned only with the enhancement of safety for everyone employed by or associated with the global marine and UK aviation industries.

Confidential Reporting

Reports can be submitted online via our website (www.chirp.co.uk), or via email (reports@chirp.co.uk).

Reporter's identities are kept confidential. Once we have collected sufficient report details from our reporters we delete their personal details so that neither we nor anyone else can identify the reporter. Any photographs or other details have all identifying features removed and are only published with the approval of the reporter.

Information Sharing

CHIRP publishes its findings and other important information in the languages most spoken by seafarers (including English, Chinese, Filipino, Indonesian and several others) both online via its website and social media and in its Maritime FEEDBACK paper publication to make a wider audience aware of situations. Subscribe to mail@chirp.co.uk to make sure you never miss a copy.



CHIRP MARITIME



@CHIRP_Maritime

What do I report?

Safety-related incidents or events involving:

- Yourself
- Your organisation or your vessel
- Other people
- Your organisation or organisations you deal with

Incidents/events can include:

- Errors
- Individual performance
- Regulatory aspects
- Unsafe practices or design

What don't I report?

- Incidents or events with no safety content
- Issues involving conflicts of personalities
- Industrial relations and/or terms and conditions of employment problems

When do I report?

- When you are concerned and wish to protect your identity (please note that anonymous reports are not accepted)
- When you wish others to benefit from an important "Lesson Learned"
- When other reporting procedures are not appropriate or are not available
- When you have exhausted company/regulatory reporting procedures without the issue having been addressed

How do I report?

Reporting can be sent via:

- Email: reports@chirp.co.uk
- Online: www.chirp.co.uk
- Telephone: +44 (0) 1252 378947