MARITIME FEEDBACK

CHIRP

An independent and confidential reporting system for the Maritime industry

Issue 71
Summer 2023

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Addressing common factors in Maritime

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In this edition, we focus on three critical factors that affect maritime safety: communication failures, the pressure to meet commercial demands and inadequate supervision. These recurring issues underscore the urgent need for improved practices and a stronger safety culture within the industry.

Firstly, effective communication plays a vital role in ensuring safe operations. In the case of the power shutdown incident (M2109), the lack of communication between the chief engineer and the bridge crew resulted in an unintended loss of power. Similarly, incidents involving engine failure (M2117) and incorrect information during the master-pilot exchange (M2118) highlight the risks of inadequate communication. The incident involving communication difficulties (M2113) highlights the significance of proficiency in maritime English for effective teamwork and emergency response.

Secondly, the pressure to meet commercial demands often creates conflicts with safety considerations. While many companies claim that safety is their top priority, this commitment is not consistently reflected in the commercial demands placed on vessels or in the time and resources allocated to them.

Lastly, insufficient supervision and oversight can contribute to unsafe practices. The incident involving inadequate supervision and risk assessment of painting the ship's side (M2107) clearly illustrates the dangerous consequences of prioritising schedules over safety. Furthermore, the collision with a yacht (M2114) underscores the importance of maintaining a proper lookout and remaining vigilant in congested waters.

To address these issues, the maritime industry must foster a culture of safety and open communication. Companies should invest in continuous training and development to ensure proficiency in critical areas such as communication and risk assessment. Supervisors and officers must take proactive measures to guarantee the safety of their crew and operations, including adequate supervision and adherence to established procedures.

Moreover, regulatory bodies should play a substantial role in enforcing safety standards and promoting best practices. Regular inspections and assessments can help identify areas for improvement and hold companies accountable for maintaining high safety standards.

By addressing these key themes and implementing necessary changes, the maritime industry can enhance safety, prevent accidents, and safeguard the well-being of crews and vessels.

Until the next edition – stay safe!

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.

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.

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M2117

Engine status not known

Initial Report

While transiting the harbour's main channel outbound, a large vessel suffered a main engine failure. The pilot informed the shore authorities, and tugs were immediately provided. The vessel's speed at the time of the engine failure was ten knots, and it could maintain its heading until clear of any danger under its momentum.

The cause- a fuel blockage - was quickly reported as cleared, and the main engine was restarted. At this point, the vessel was still making five knots, so the vessel navigated back into the main channel. The pilot stood down the tugs after the master verified that the main engine was working correctly.

The pilot then disembarked, but shortly afterwards, they heard the master contact the shore authority to request an anchorage to fix the main engine, contradicting what he had told the pilot on board.

M2118

Incorrect Information Provided during Master-Pilot Exchange

Initial Report

The pilot boarded a logger vessel just before it entered the harbour. No defects were reported during the master-pilot exchange. As the vessel passed the breakwater, the pilot (now on the starboard bridge wing) ordered dead slow astern. The master relayed the order to the mate inside the wheelhouse, but the engine rpm indicator on the bridge wing continued to show ahead propulsion. Believing that either the master or mate had misheard the order to go astern, the pilot repeated the order. The master assured the pilot that the engine had gone astern but that the indicator on the bridge wing was wrong. As a precautionary measure, the pilot ordered the tugs to come to the vessel earlier than required, and the vessel safely berthed.

After berthing, the chief engineer came to the bridge and informed the master and pilot that the problem had been resolved. The pilot asked what the problem was, and the chief replied that there was a wiring problem inside the indicator. The pilot spoke with the master, reminding him he had not declared any defects during the master-pilot exchange.

CHIRP Comment

Before entering or leaving a port, all equipment must be tested to ensure that it is working as expected. Similarly, any defects discovered must be passed on during the master-pilot exchange.

CHIRP increasingly receives reports of masters unwilling to declare material deficiencies to pilots, which only come to light when the vessel does not manoeuvre as expected, thereby increasing the risk of a navigational incident.

Some masters fear that by declaring defects, they may be subject to a Port State Control inspection. Ironically, many pilots tell CHIRP that a vessel that proactively declares defects are likely to be viewed as having a good safety culture on board and, thus, is less likely to be inspected!

In some cases, commercial pressures are often in conflict with safety. The best place to undertake repairs is alongside where technical support and spare parts can more easily be sourced. If a vessel misses its scheduled departure because of the time to fix the defect, then this must be accepted as the safest option. This is preferable to losing control of the vessel and suffering catastrophic damage due to a breakdown because the defect was not fixed.

CHIRP encourages companies to drive proactive risk management throughout their fleets and to empower their masters and chief engineers to take positive safety actions to mitigate the risks. Prudent overreaction is always better. Ultimately, empowering staff to make bold decisions to remain in the harbour to undertake defect repairs is essential for ensuring the crew's safety and the vessel itself. By fostering a culture of safety and open communication and providing the necessary training and resources, organisations can help ensure that all crew members are equipped to identify and address potential issues with the vessel promptly and effectively.

Factors identified in these reports

Pressure – Companies should be aware that inappropriate pressure on crews to meet commercial deadlines compromises safety by impairing decision-making and hindering the timely and effective completion of maintenance or repairs.

Communication – To maintain navigational safety, masters must openly and transparently report any defects during the master-pilot exchange. Failing to do so jeopardises the integrity of pilotage operations.

Teamwork – Share the problems with your team and always encourage challenges to ensure the issues have been thoroughly considered. In report M2117, the issue was not fixed, and in the second report, M2118, the known problem was not communicated. Adopt a shared mental model when confronted with operational or technical problems.

Culture – Open reporting creates trust, whereas withholding vital information from the pilot can quickly erode trust.

M2113

Communications difficulties hinder understanding

Initial Report

A pilot encountered major communication problems when speaking to the master, who had a poor knowledge of maritime English. Other than simple orders such as 'starboard 10' or 'dead slow ahead', the pilot struggled to

communicate with the master. The pilot found it difficult to integrate with the bridge team, who all spoke in their language and not maritime English.

CHIRP Comment

Proficiency in maritime English is an essential safety enabler. It is the official language within the shipping industry and is the foundation of effective communication.

Recruitment Placement and Service Licences (RPSL) play a critical role in ensuring that officers and crew members have adequate language skills in maritime English, which is essential to meet the requirements of the International Safety Management (ISM) code. This includes emergency preparedness and response, which requires quick and efficient communication to prevent dangerous situations.

Once certificated, all seafarers should be provided with ongoing training and development in maritime English to ensure their communication skills remain current and effective. This can be achieved through various means, including language courses, on-board training programs, and continuous language proficiency assessments.

Factors identified in these reports

Communication – Like any skill, competency in maritime English will quickly fade if it is not constantly practised, significantly increasing the likelihood of miscommunication or misunderstanding. Companies should invest in ongoing language training throughout a seafarer's career. Port State Control could remove the master if they consider that their inadequate proficiency in maritime English does not meet the requirements for safely operating the vessel with 3rd parties/contractors and emergency responders.

M2109

Incorrect response to fuel leaks results in an unintentional power shutdown

Initial Report

The vessel left the dock and proceeded to sea to conduct sea trials after a lengthy period in dry-dock, where work had taken place on both main engines. A vibration specialist and a Classification Society surveyor were also on board. Both generators were running and connected to the electrical switchboard.

While the vessel was still inside the breakwater, the chief engineer disconnected one of the generators from the switchboard but left it running in cool-down mode. They did not inform the bridge that they had done so.

The 2nd engineer was in the engine room, next to the generators, helping the vibration specialist to gather readings from the gearbox. They noticed that a high-pressure fuel line to one of the generators had split and was spraying oil onto the hot exhaust manifold.

The 2nd engineer hit the generator's emergency stop button, and the ship experienced a total electrical failure just as it was passing the breakwater. All navigational control was lost as a result, but luckily the emergency generator started, and power was quickly restored.

CHIRP Comment

The chief engineer in the Engine Control Room should have requested permission from the bridge before changing the machinery state of the vessel so that the bridge team are always aware of the limitations of power and propulsion – especially when manoeuvring in or out of the harbour. Because the conversation would have also been broadcast over the loudspeakers in the engine room, those in the engine room would have been aware that only one generator was providing electrical power to the ship.

After a lengthy period in dry-dock, and particularly when the material state of the vessel has been altered, the hazards and risk assessments should be reviewed and enhanced controls put in place, e.g., additional watchkeepers in place while leaving the harbour.

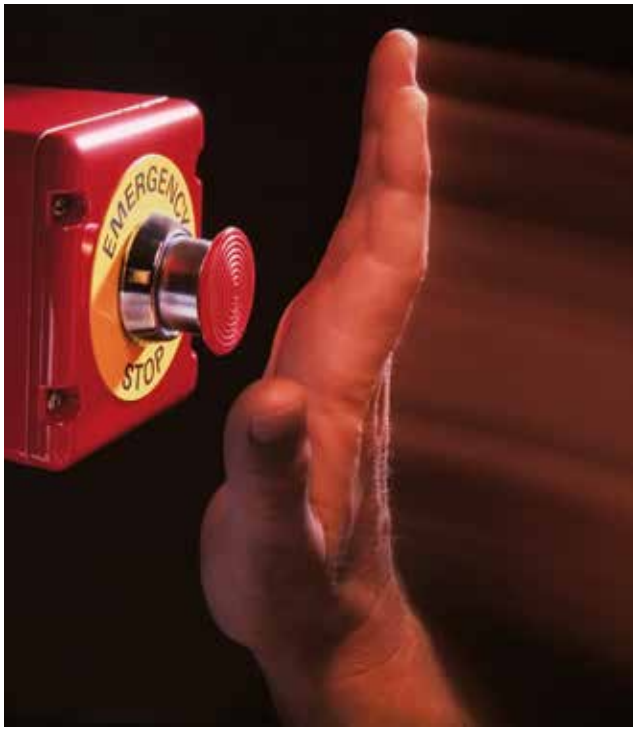
Factors identified in this report

Communications – Restoring standard communication procedures, particularly after a lengthy period in dry-dock, needs to be reinforced. Taking the generator offline and not communicating this to the engine room team and the bridge was unsafe.

Teamwork – A heightened level of teamwork is required to ensure that the engine room, which has been subjected to overhauls and repairs from external contractors and the ship's staff, is seaworthy. Consider operating an enhanced watchkeeping routine for the first day and night back at sea. This reduces the risk of something going wrong.

Distractions – Checking that the status of the engine room and all ancillary equipment is functioning must be the priority, and nothing should distract the engine room team from this task.

Competency – Drydocking requires the ship's staff to have good operational adaptability and an elevated level of risk knowledge. Management should ensure that certain members of the ship's crew have this when planning their dry dockings.



M2114

Collision with a Yacht in a busy traffic lane

Initial Report

A yacht left their island port for a 4-day passage in constrained but busy waters. Strong winds were forecast but the yacht's wind instruments were broken.

During the 4-hour night watches (2200-0200 and 0200-0600) the crew divided into pairs. One would take the helm for 2 hours while the other slept in the cockpit, and they would swap over halfway through the watch. The sea and wind were moderate with occasional rain showers.

The reporter said, "At 0415 on the third day our reporter was at the helm while their colleague slept in the cockpit. The yacht was motoring in a traffic channel and AIS showed no vessels in the vicinity. Suddenly a huge shadow appeared on the starboard side, and a loud noise enveloped the yacht.

The mainmast plunged towards the stern and broke, only held out of the water by the rigging. The mizzenmast remained upright, but a large part of the starboard side was badly damaged and torn away, along with the bowsprit, but there appeared to be no damage below the water line.

The ship that collided with us showed no sign of slowing down and dragged us for about 2 miles even though the rest of the crew fired distress rockets to attract attention. Nine were fired before someone from the ship noticed us, and the ship slowed down to stop dropping its port anchor. At the same time, I also decided to activate the EPIRB because this would be the only way for someone to hear us.

Unfortunately, the DSC alert from the VHF was useless because the antennas were damaged, and the portable radios had limited range. I sent out a MAYDAY call on the portable VHF handsets hoping anyone on the container vessel's bridge would hear us.

Within minutes of activating the EPIRB, we were contacted by the COSPAR SARSAT system, to which we passed all the information. They told us they had also alerted the local coast guard. However, nobody showed up or made contact.

Over an hour after the event, five crew from the container ship descended onto the yacht from a ladder and, with some difficulty, managed to free the rigging and sails from their ship's starboard anchor."

At around 07.00, we tied up everything we could and slowly motored the last 30 miles to enter our port of destination and safely moor."


Not actual vessel

CHIRP Comment

This is a dramatic account of a serious incident, and although we lack the perspective of the container vessel, it underscores several crucial safety lessons.

Neither vessel saw the other, despite both showing navigation lights. However, the range of yacht lights can reduce significantly when heeled over, and the high bow of container vessels can create a lengthy 'dead zone' ahead of the ship for its lights and radar. Furthermore, radar clutter caused by moderate sea states and rain showers can impair the detection of yachts and smaller vessels. Many yachts carry only an AIS receiver, not a transmitter.

Letting one person sleep while on the watch does not make sense: their sleep will be disturbed – leading to eventual fatigue – and the helmsman is deprived of a valuable lookout while navigating in congested waters.

Fortunately, distress rockets were fired, and the EPIRB was activated, eventually attracting the container ship's attention. It's essential to have emergency equipment and procedures in place in case of such incidents. Unfortunately, the DSC alert from the VHF was useless due to the damaged antennas and limited range of portable radios. This highlights the importance of regularly checking and maintaining all communication equipment. Consideration should be given to placing the VHF antenna in a safer location.

It's concerning that the local coast guard did not show up or make contact after being alerted by the COSPAR SARSAT system. This may be something to bring to the relevant authorities' attention to ensure proper protocols are followed in emergencies.

Overall, it's essential to prioritise safety and preparedness when embarking on a lengthy voyage, especially in busy and congested waters.

Factors identified in this report

Teamwork – Additional lookouts to assist the helm are vital when operating in busy and congested waters, at night and in poor weather conditions. Watch schedules should be adjusted for navigating these high-risk areas.

Pressure – The decision to undertake a non-stop passage with defective wind indicators, in forecast poor weather, and a busy waterway suggests that the crew were under an inappropriate external or self-imposed time pressure. Be aware of, and challenge, such pressures.

Distractions – Distractions reduce situational awareness. It is possible that workload distractions prevented the detection of the approaching vessel, given that there was only one lookout on duty.

Fatigue – It is possible that an element of fatigue contributed to the lack of an adequate lookout. A key characteristic of fatigue is poor risk acceptance. The watches should have been doubled to provide increased situational awareness.

M2107

Inadequate supervision and Risk Assessment

Initial Report

Our reporter wrote: "The cruise ship was on an adjacent pier beside where we were berthed. Three members of their crew were in the process of recovering their paint raft with three seamen onboard from the port side forward mooring station extendable platform when it became stuck underneath one of the pier fenders and tilted badly, causing all three crew members to fall in the water from an approximate height of 2 meters.

All of them were wearing floating devices/lifejackets and managed to climb back onboard the raft as no vertical ladders were on the dock. Once onboard, two other attempts were made to hoist the raft using the telescopic crane fitted on their mooring station. However, it got stuck both times again under the mooring fenders causing the crew to fall again into the water!

Once back onboard, they swapped sides and were finally recovered from the starboard side platform, which was not initially used because of the fresh easterly breeze that created choppy seas in the harbour.

None of them was wearing any safety harness attached to the sling and raft. Unfortunately, this practice (very common in the cruise industry) of lowering/hoisting a manned paint raft is hazardous and should be discontinued. In addition to that, no supervisors and officers were supervising the job, and even after the accidents, none showed up!"

CHIRP Comment

The lack of supervisory leadership enabled a very unsafe situation to develop. A comprehensive plan must be developed for any lifting operation, based on a comprehensive risk assessment. The positioning of the fender made this operation very difficult to carry out safely.

Equipment used to lift people must be designed specifically for that purpose and lifting operations must be adequately supervised by a qualified person. IMCA *Guidelines for Lifting Operations* is a useful reference: https://www.imca-int.com/product/guidelines-for-lifting-operations/

CHIRP questions why the work party continued working after the first time that they fell into the water. Fortunately, their lifejackets prevented a more serious outcome.

The Flag State has contacted the company about this incident.

Factors identified in this report

Local Practices – Lifting people on paint rafts that are not designed for this purpose is a safety violation. If in doubt, ask to see the lifting test certificate.

Pressure – The corporate pressure to maintain the vessel's cosmetic standards led to poor decision-making: this task should have been rescheduled until weather conditions improved or it was carried out at another port.

Culture – At a minimum, every company's safety culture should empower its employees to prioritise safety over the achievement of a task and report hazards or incidents that compromise safety. If this is not the case on your vessel, you can report this to CHIRP.

Alerting – Seek 'stop work' authority if you believe that a task is unsafe and bring your concerns to the attention of a senior officer. Incident reporting is vital if lessons are to be learned and repeat incidents are avoided.

Pressure – Given the work being undertaken, time pressure was likely a factor in the work not being adequately supervised and rushed. Could this work wait until the ship called at a port where more time was available?

Teamwork – The "group think" by the three crew on the paint raft led to the incident happening three times. Good leadership would have prevented this from happening.

Advancing safety in the shipping industry: the rise of automated vessel self-cleaning systems

By Gary Bruce, AMS Global Group

Working in enclosed spaces has long been recognized as a hazardous endeavour in the shipping and offshore industries. Despite significant safety measures, accidents still occur, prompting a continuous quest for improvement. This article delves into the utilization of automated vessel self-cleaning systems to mitigate risks and enhance safety. We explore the journey of implementing these systems, overcoming challenges, and reaping the benefits they offer.

Enclosed spaces pose substantial risks, and traditional safety measures have their limitations. Acknowledging this, industry professionals sought alternatives to minimize the need for human entry into tanks, where dangers lurk. The realization that the best way to reduce risks is to avoid putting people in harm's way led to the exploration of automated vessel self-cleaning systems.

Implementing this new approach required concerted efforts from various stakeholders. Vessel operators, crews, and logistics providers were engaged in discussions to promote and implement self-tank cleaning. Overcoming resistance and changing entrenched mindsets proved to be a challenge, but the support and cooperation of these key players were crucial in driving the adoption of this innovative solution.

Automated vessel self-cleaning systems employ spinning nozzle heads that eject high-pressure water in all directions within the tanks, effectively breaking down residues. The use of water and detergent, akin to established COW and Butterworth nozzle technologies, ensures efficient cleaning. Dosing tanks allow for adjusting the detergent amount, while heated water at around 40 degrees Celsius maximizes the cleaning effect. Tank cleaning cycles can vary in duration, depending on the tank's condition and the desired cleanliness standard. Addressing the challenge of timely discharge/ stripping pump operation to prevent solids settling while avoiding pump dry runs has been a significant aspect of system optimization.

The adoption of automated vessel self-cleaning systems yields numerous benefits. First and foremost, it reduces the need for personnel to enter tanks, effectively mitigating risks associated with confined space entry. Furthermore, it minimizes the occurrences of slips, trips, and falls, reduces working at heights, and decreases exposure to hazardous chemicals. Cost reduction increased operational efficiency, and improved quayside congestion are additional advantages, as self-cleaning allows tanks to be cleaned at sea or while in port. The generation of similar or less waste, elimination of scaffolding requirements, reduced vessel movements, and a smaller carbon footprint further enhance the appeal of these systems.

To further reduce the need for human entry into confined spaces, recent trials have involved the use drones for remote tank inspections. These provide a rapid and safe means for remote assessment and provide much greater fidelity of data than previously achievable, surpassing even that of reach-pole cameras (see here for an example: https://www.youtube.com/watch?v=Dl5qebdn08M). This innovative approach demonstrates promising potential for reducing reliance on physical tank inspections and improving safety protocols.

In the pursuit of improved safety standards, automated vessel self-cleaning systems have emerged as a game-changer in the shipping industry. By minimizing the need for personnel to enter tanks and leveraging advanced technologies for remote inspections, risks are mitigated, costs are reduced, and operational efficiency is enhanced. With the continued support and collaboration of industry stakeholders, the widespread adoption of these systems can revolutionize safety practices, ensuring a safer working environment for all involved.

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Design: Phil McAllister Design Ltd | Printed in the UK by The Print Consultancy