ANNUAL DIGEST

CHIRP

An independent and confidential reporting system for the Maritime industry

2023

PORT OPERATIONS
COMMERCIAL FISHING
RECREATIONAL AND DIVING
CRUISE AND FERRY
SUPERYACHTS
ENGINEERING AND DESIGN
DECK AND CARGO OPERATIONS
BRIDGE, PILOTAGE AND NAVIGATION

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 over 50 seafarers (see map) 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**

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CHIRP

Confidential Human Factors Incident Reporting Programme

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Annual Digest of Reports and Insight Articles 2023-24

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Maritime Director's Foreword

20 year's in – and still going strong!

I am delighted to present our Annual Digest for 2023-24. The power that this compendium of safety-focused incident reports and in-depth 'insight' articles draws upon is that they are all based upon the real-life experiences of our reporters. These span almost every part of the maritime industry and represent a broad cross-section of the topical safety concerns and issues facing our global maritime audiences.

2023 is the 20th anniversary of the CHIRP Maritime programme. As ever, our primary focus has been on improving safety for seafarers worldwide. We respond to every report that we receive, and we have continued to assist our reporters in many ways. For those reporters who felt that they could not use their own company reporting system, we advocated for them while protecting their identity. In other cases, we liaised with Flag States or Classification societies regarding serious design or compliance issues. In yet others, we engaged with national regulators on recurring issues such as pilot ladder arrangements.

The results of these activities are recorded in each of the reports, and regular readers will detect that this Digest contains more than previous editions. This year we augmented our primary *Maritime FEEDBACK* newsletter with additional editions for the commercial fishing, ports, and superyacht sectors in recognition of the unique challenges that each face.

This year, CHIRP has also co-produced a new podcast series called *Seaviews*, with each episode focusing on a particular topic of interest from a safety perspective.

All of these activities and initiatives, and the positive safety impact that they enable, are only made possible by the continuing and very generous support of our funders. We are truly humbled by their continued financial and moral support – thank you.

Finally, I hope that you find this edition both interesting and informative. We are always keen to hear your thoughts and ideas, too.

Yours in Safety,

Adam Parnell
Director Maritime

Foreword

William H Moore
Director Maritime, The American Club

Incident Reporting Is Key to Loss Prevention

What is it that makes near misses and reporting so effective for safety? Humans learn best through direct participation, increased engagement, creative thinking and real problem solving, i.e. collective, active learning. Learning from mistakes and interventions that prevent incidents in the hands-on, active engagement environment, through the sharing of stories and experiences that not only makes it easier to absorb complex material, but also makes it easier to remember. The best way to learn a lesson permanently is to experience a terrible outcome that spurns actions to ensure it does not happen again. The ultimate objective of those types of experiences is a greater appreciation and awareness for executing tasks safely.

P&I clubs, including The American Club, take a particular interest in encouraging near miss reporting mainly for the benefits of identifying, assessing, and mitigating risks in order to prevent loss and support seafarers' safe return to their loved ones ashore. Near miss reporting is an opportunity to learn from real incidents, without the devastating consequences of tragic and costly claims. Traditionally defined as "a narrowly avoided incident, damage, or close call," near misses are a much more acceptable outcome to a real accident.

CHIRP Maritime provides a mechanism for reporting hazardous situations, near misses, and incidents that can be assessed and analyzed, and recommendations disseminated for the greater good of mariner safety. All maritime stakeholders benefit from such assessments and recommendations but most importantly, seafarers and their families are the ultimate beneficiaries.

THE AMERICAN CLUB 1917

Acclamations and CHIRP Maritime's collaboration activities

Abuse, bullying, harassment, and discrimination (ABHD), and violence against seafarers

CHIRP Maritime is very proud to be a part of the working group to eradicate ABDHV against seafarers.

Maritime Professional Council- Kind Leadership Webinar

Members of the Maritime Professional Council (MPC) and CHIRP were invited to participate in a Webinar hosted by the Nautical Institute on the subject of Kind Leadership in the Maritime Industry in November 2023.

GCaptain citation.

Five organisations signed the MoU for the safety and security of global tradez

Dave Watkins, the Deputy Director of CHIRP Maritime, expressed delight in being part of the MOU, adding that CHIRP Maritime would work with its partners to collect information on operational cargo-related accidents and incidents and share the learning with the wider maritime community to promote best practice in the supply chain and reduce the number of cargo incidents on board ships and terminals.

Invitation to the North American Maritime Ministry Association (NAMMA) Conference in July 2023.

CHIRP was honoured to be invited to the annual NAMMA conference in Seattle, USA, to listen to and participate in the fantastic work carried out by the various ministries that visit commercial shipping in the United States of America and Canada.

World Maritime University

Citation from the World Maritime University for CHIRP advertising the report on the "Barriers to personal protective equipment use among international seafarers: a UK perspective".

International Maritime Human Factors Symposium Glasgow, Scotland, 30 Nov – 1st Dec 2023

CHIRP Maritime was part of the organising team and participated in the event, which was attended by over 100 participants.

Seafarers' Charity Award

CHIRP Maritime was honoured to receive an award from the Seafarers' Charity President, HRH The Duke of Edinburgh KG GCVO, for CHIRP's invaluable contribution to seafarers' wellbeing and helping seafarers to thrive.

The award was presented to CHIRP Maritime Director Adam Parnell at the Seafarers Charity AGM in London June 2023.

Introduction

One of the great pleasures of compiling our Annual Digest is that it gives us an opportunity to revisit all the reports we have received during the year. The excellence of the reports and the commitment of our reporters is inspirational, and this ninth edition of the Digest is as varied and thought-provoking as any of its predecessors.

Without our reporters we would not exist, and we owe them a tremendous debt of gratitude. The world's seafarers face constant challenges, not only from the traditional forces of the oceans and the weather, but increasingly from conflict and violence in many parts of the world. A senior shipping executive recently described the past year as 'one of the most dangerous times in memory', so the fact that our reporters still find time to make a real contribution to the safety of others is a tribute to their character and dedication. It is an honour to thank them all on your behalf.

Director, Maritime Adam Parnell and Deputy Director Dave Watkins continue to implement improvements. In addition to the new website (still a work in progress), they have produced 7 podcasts which are described elsewhere in the Annual Digest, and have launched a range of sector-focused editions of Maritime FEEDBACK. The first of the new publications covered the superyacht sector and was so successful that we have produced four subsequent editions. They then turned their attention to the fishing sector, and ports and harbours, each of which is expected to be published twice per year. Although I have described these as 'focused' editions, the safety message is universal so they contain useful lessons for all of us. If you have not yet read them, the reports are all included in this Digest, and I urge you to study them.

In other news, we set about recruiting more Ambassadors to help spread the safety message. At time of writing, we have 58 Ambassadors in 31 countries, and we thank them all for volunteering their time in a very worthwhile cause. If you would like to join them, please contact us.

As always, every report we publish is discussed at the Maritime Advisory Board (MAB) once it has been rendered anonymous and the reporter cannot be identified. MAB members are all experts in their respective fields, and our analysis benefits enormously from their skill and experience.

We also benefit from the sterling work of Stephanie Dykes, our Administration and Finance Manager, and her maternity cover Alexandra Fairclough. They are responsible for the smooth running of the general and financial administration of CHIRP, which allows Adam and Dave to concentrate on our safety mission. They do a superb job of keeping everything shipshape.

We continue to publish FEEDBACK in as many languages as possible, and recently added Arabic to the English, Chinese, Filipino, Indonesian, Spanish, Portuguese and Ukrainian versions on the website. Our translators give their time and skill to help us reach as many people as possible, and we are enormously grateful. Please let us know if there are other languages you would like to see or, even better, if you would like to sponsor a version in another language.

As always, we rely on the generosity of sponsors to produce our publications, podcasts and other offerings, and we simply could not function without them. The companies and organisations which have supported the publication of the Annual Digest are listed within these pages, and all our sponsors are acknowledged in our other publications. We thank them all.

This year we received more reports from the fishing sector, but we still see almost nothing from the offshore industry. Such a large and important sector undoubtedly has many useful lessons to share, so we hope to hear more from them in the future.

Once again we have divided the Digest into themed sections to allow readers to find the topics which most interest them, but there are many reports which could have been allocated to several different sections, so we urge you to study them all. There are useful lessons both for seafarers and shore staff in every report we publish.

We also include a number of Insight articles which discuss topics in greater depth, or shed light on important safety matters. They are written by experts, and all worth reading.

Finally, we hope you will find this Annual Digest both interesting and informative. Please let us know your views, because your opinion matters and we read all your comments to ensure we continue to provide the information you need to make our industry safer.

Until next time, take care and may all your voyages lead you safely home.

Editor: Captain Alan Loynd
FNI FITA MCIArb BA(Hons)

The world's seafarers face constant challenges, not only from the traditional forces of the oceans and the weather, but increasingly from conflict and violence in many parts of the world

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1. Port Operations

A number of themes can be identified in this section. Language difficulties, a lack of situational awareness, lack of supervision and the need to avoid close quarters are all prominent. Most of the problems could have been overcome with better planning so the ability to plan ahead and make contingency arrangements is vital. This is clearly shown in a report of a passenger ferry which had pre-planned abort positions in the port approaches.

Of all the human factors discussed in this section, communications appears most often. We stress that everyone needs to know what is going on, and this often means informing not just your own crew but third parties as well. In addition, we identify alerting, fatigue, situational awareness, pressure to avoid delays, poor safety culture and a lack of teamwork as contributing factors. These all appear in more than one report, but most of them can be avoided with better planning and preparation.

Among the human factors we identify are:

communications
- the bridge team should affirm the pilot's actions
- clear communication from the port authority is vital
- closed loop communications are the safest option

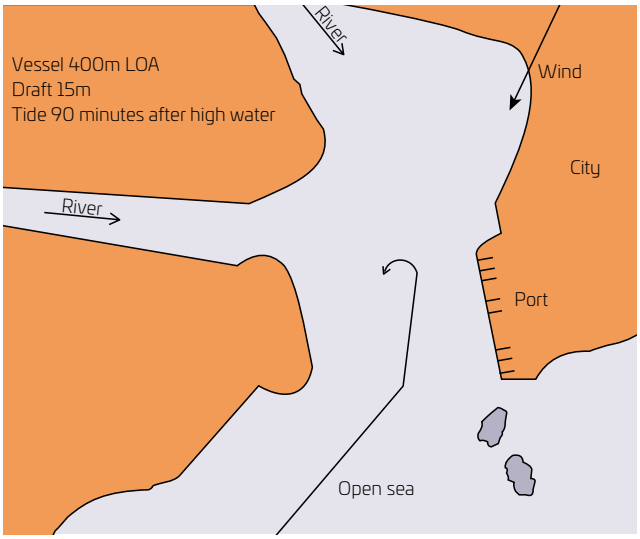
alerting
- do you provide the support the pilot needs?

fatigue
- elements of fatigue may always be present, especially at night
- can operations be timed for daylight when the crew are better rested?
- situational awareness
- take additional care when working lines if other vessels are in the vicinity
- night operations require enhanced situational awareness

pressure
- time pressure can result in poor supervision
- mooring operations must never be rushed
- poor safety culture
- company safety culture must empower employees to prioritise safety
- lack of teamwork
- check that all members of your team know what is happening

M2100

Vessel grounding in harbour



Initial Report

The pilot boarded a very large container ship at 0200 before it navigated into harbour. The wind was NNE 10 knots, the tidal current was to the SE, and visibility was good. The pilot noted after the incident that language difficulties reduced the effectiveness of spoken communication.

At about 0350 (1 hr and 30 mins after high water), the container ship commenced her swing to port off the berth. By 0405, with the swing completed, the vessel appeared to be setting south under the influence of wind and tide.

The vessel's stern swung towards the quay and got close to one of the jetty cranes, so the pilot manoeuvred the vessel to avoid contact. They needed someone to report distances to the quay and other infrastructure as it was less than 10m from the jetty and a mooring dolphin. Three tugs were directed to pull the container ship away from the jetty, but it became apparent that the vessel had drifted due to wind and tide and had grounded on a charted shallow patch. The port authorities were informed, and a fourth tug was despatched to push onto the vessel's port quarter. With this assistance, the ship safely manoeuvred off the shallow patch at 0506 and subsequently berthed without further incident after extensive checks on the hull's watertight integrity.

Establishment and operation of aids to navigation should be reviewed for each port as the volume of traffic justifies and the degree of risk required

CHIRP Comment

Maintaining situational awareness at night is challenging. Visual references are difficult to make out, particularly against background lights, and they can change over time due to development ashore. IMO SOLAS Chapter V regulation 13,

As part of the assessment, port authorities must consider whether their navigation aids are sufficient to enable safe navigation, including appropriate lit aids to navigation if the port is open at night. To determine which aids are required, countries and port authorities must conduct risk assessments of their ports. IALA guidance (G1124) provides a guide to safety assessment.

The briefing between the pilot and crew was hampered by language difficulties. The pilot became the 'single point of failure' as a result. A sketch or other visual aid would have helped develop a common understanding, making it easier to identify when the pilot needed assistance and to prompt constructively or question, e.g. "Are you aware that we are drifting towards the shallow patch?" This did not happen. As the vessel moved close to the jetty and other objects, the pilot's workload focus increased, and they lost overall situational awareness.

CHIRP strongly encourages teams to adopt the PACE (**P**robe, **A**lert, **C**hallenge, and **E**mergency) described in some depth in the CHIRP publication 'Making critical decisions at Sea', which is available on our website. Good communication and attention are essential, particularly at night when our circadian rhythms are often at their lowest.

CHIRP draws your attention to the enormous forces acting on the underwater hull of very large vessels. Masters responsible for safely navigating very large vessels should be provided with adequate training in handling these large vessels so that they can, with enhanced knowledge, assist the pilots in safely berthing the vessel.

There are a number of manned-model courses which train masters and pilots in understanding the dynamic forces acting on the hull of all types of vessels.

Factors identified in this report

Communications – The bridge team should have affirmed the pilot's actions when requested. A drawing of the intended plan would have provided a visual interpretation of the stages of the turn with safe clearing distances applied to the radar for cross-checking.

Alerting – Only the pilot appeared concerned about the vessel's movement towards the corner of the jetty. The pilot stated he was acting alone- does this happen on your ship? Do you provide the support the pilot needs?

Fatigue/Situational Awareness – It's possible, given the time of day, that elements of fatigue were apparent. Berthing or unberthing at night requires enhanced situational awareness of yourself and your surroundings. Actively seek input from others.

M216

Lone Fisher Falls Overboard

Initial Report

During the early evening, a single-handed inshore fishing vessel under 10m was working pots just outside the harbour's mouth. The fisher lost their balance and fell overboard, and could not self-rescue. Although they wore their flotation device, they could not summon help because their radio was still on the boat. They were in the water for over an hour before they were spotted and recovered by a passing sailing vessel. Although they were highly hypothermic, they made a full recovery. Their fishing vessel was recovered the following day.

CHIRP comment

In this scenario, the fisher was fortunate to be spotted by a passing sailing vessel. Wearing a flotation device was crucial because it reduced the effort required to remain afloat so that they could conserve energy. Depending on your area of operation, consider wearing warm insulated clothing.

When fishing single-handed, CHIRP advises that a ladder is rigged to aid self-rescue or a floating messenger line attached to a lifebuoy streamed from the stern and next to the ladder. Fishers are also strongly encouraged to wear a waterproof hand-held VHF radio or (even better) a Personal Locator Beacon (PLB), which can alert the emergency services if you fall in.

A typical personal locator beacon (PLB)

Factors identified in this report

Local practices – Rig a ladder or another means of getting back on board if you fall over the side.

Communication – Carrying a means of summoning emergency assistance on your person can save your life. In some regions, fishers operate a regular radio check-in call with someone ashore to alert the authorities if they fail to check in when due.

M2070

Mooring launch crushed against the side of a container vessel

Initial Report

The port berthing officer was attending to a large container vessel's berthing when he received a radio message from the mooring team to quickly head aft to investigate a serious incident during mooring operations.

The aft mooring launch sat at the stern of the containership, waiting for the third line to be lowered to them. Instead, the two lines that had been run ashore and were fast on the bollards were slackened off by the aft mooring team and dumped into the water. The launch tried to move away from the lines to avoid getting tangled. When the launch was almost clear, the ship heaved up on the two lines again, only to catch the mooring launch, lifting it out of the water and crushing against the underside of the ship's flare. The two launch crew considered abandoning the craft, as the prolonged shouting and blast of their horn did not affect getting the crew's attention. Finally, the ship's after mooring crew realised

what had happened and slackened off the lines. Other than the boat crew being severely shaken by the incident, there were no injuries to the crew but some damage to the mooring boat.

CHIRP Comment

This is an obvious case of miscommunication during a critical phase of the mooring operation.

Vessels often pay out lines to take the weight off them prior to transferring them to the working drums. The safest method is to do this only after all lines are ashore, and then moved one at a time, so that the lines and the vessel always remain under control. CHIRP wonders if there was a real- or perceived-time pressure on the mooring party for them to take such a dangerous short-cut?

Key Issues relating to this report

Situational Awareness – While launches or other vessels such as tugs often make line handling easier, it complicates the mooring officer's task because they must simultaneously retain an awareness of what is happening on board as well as over the side. It is rare that a vessel has enough crew to dedicate one person to each of these tasks, although that would be ideal. Instead, additional care must be taken when working lines with vessels nearby.

Pressure – Mooring operations must never be rushed. Care is required by the master and pilot to provide timely messaging to the mooring teams to ensure that each order is carried out carefully and in an unhurried manner.

Distractions – The mooring team were distracted when they failed to hear the mooring boat crew's alert when they were trapped against the ship's hull. Keeping alert during mooring operations is vital, given the changing nature of the ship's movement and the strain on the mooring lines.

M2062

Contingency action to avoid a close quarter incident with a passenger Ferry

Initial Report

Our reporter, a passenger ferry captain, writes: "As per the timetable, we arrived at the standby location for the port at the required time. It was daylight, with good visibility and a stiff wind. We worked, as usual, on the pre-arrival checks and verifications as we closed on the berth. When I called the port per the pre-arrival checklist, I was informed that a large passenger liner had just let go and that I might have to 'slow her up' (referring to my vessel). However, given the proximity to the berth, the other boat and the increasingly confined waters, it was clear that I would have to lose speed quicker than I safely could. So, I had to opt for a rapid turn upwind (to avoid being set onto the nearby lee shore). I continued my turn and completed a 360, and during this time, the passenger liner was clear of the port and the berth we were aiming for. Our distance from the breakwater was approximately 3 cables when we started the turn.

For each port of arrival, we plan two abort positions. We had passed the first, where 'Standby' is rung on, the crew called to stations, pitch response is verified, and hand steering is engaged. We had not yet reached the second abort position (approximately four cables from the first), so a direct abort was still viable.

Shortly after passing the first abort and confirming the items mentioned, I called the harbour for permission to continue into the berth. I was given the all-clear whilst being advised of a departing cruise ship that might be leaving. The operator told me I "might want to slow her up a bit", but it was now clear to me that I would need to abort the arrival to avoid a close-quarters situation with the cruise vessel, which was manoeuvring off her berth. Given the proximity of the lee shore to starboard, I elected to turn to port/upwind and gain distance from the shore, together with slackening speed to a minimum.

With the above avoidance measures well underway and having the desired effect, I communicated with the cruise vessel to establish which general direction they intended to take upon clearing the harbour to allow me to plan the rest of my manoeuvre and not result in additional unnecessary risk. With them advising a course to the east initially before turning to the north, I elected to complete a full 360, allowing time and space for the cruise ship to exit the immediate harbour area and for me to generally pick up the standard approach to our berth for arrival.

The main hazards were the proximity of the lee shore, with easterly winds, something that is factored into the passage plan to allow extra room, including the shoaling waters to the south of the berth; this knowledge allowed me to decide on early, positive and bold avoidance measures quickly, rather than allowing the risk to increase by proceeding onwards, even at a reduced speed, and allowing an unnecessary close quarters situation to develop.

As my vessel is on a timetabled service, we arrive and leave at the same time every day, weather permitting. Despite this, the cruise ship was allowed a departure that directly clashed with our arrival. A clash in movements such as this should have been avoided with a simple telephone call or email. After that, we could have timed our arrival later, thus preventing the situation above entirely.

It's worth noting that the bridge team worked very well together in the initial arrival, the abort actions, and the passage/arrival resumption and subsequent safe berthing.

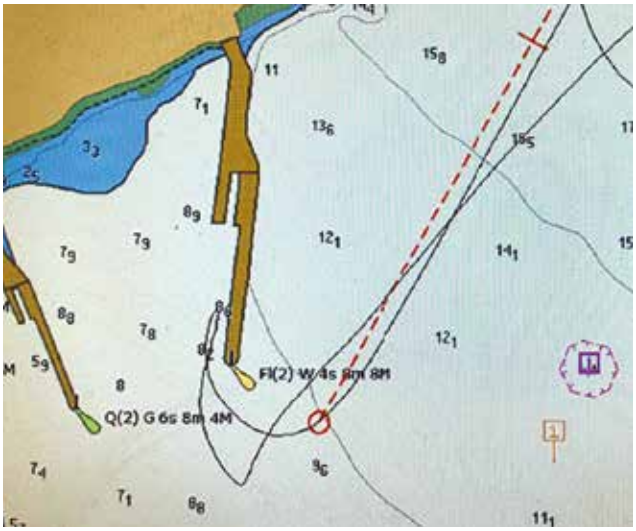
CHIRP Comment

The ferry traded time for space and safe water and avoided a close-quarters situation. This was the correct course of action. Readers are encouraged to compare this with report M2036, published in our last edition of FEEDBACK, which highlights the perils of taking the opposite approach.

Port authorities are responsible for managing vessel traffic, and they would have been aware of the ferry's scheduled arrival time. Cruise vessels too operate to an itinerary but better co-ordination between the port and the cruise ship would have avoided this incident. This suggests either a breakdown in communication or the ferry's arrival

was not correctly considered when the cruise ship planned its departure time. Radio procedure by the port authority was also ambiguous: was "You might want to slow up" a direction, or a recommendation?

In smaller ports, particularly those which are not staffed 24 hours a day, publish notices to mariners directing certain sizes or categories of vessels to broadcast their arrival and departure on the port's VHF working channel. This alerts other vessels of traffic in their vicinity and allows them to co-ordinate with each other. CHIRP encourages small ports to consider whether such a scheme would be appropriate in their harbour.



Key Issues relating to this report

Local Practices – Port management must not leave marine operations to chance. Establish clear safety risk measures, and define procedures to clearly understand what is required for arriving and departing vessels at this port.

Communications – Clear communications from the port authority, which prioritises incoming and outgoing vessel traffic, should be established, especially in ports with limited room to manoeuvre.

M2082

Fouled Towing Line Bridle

Initial report

Our reporter stated they were on a tug, towing a 47ft tender and approaching the anchorage in the early morning (0130 hrs).

"There were just three crew on duty: me, the master, and the engineer. About a mile offshore, the master reduced speed to prepare for unhooking the tender. He directed me to the aft deck and to stand by. I started to put out fenders, ready for the tender to come alongside after anchoring. As I was doing this, I heard the engines go astern. The tender was only about 40m astern using a 75m tow line, and the tow line was slack. I radioed the bridge to say disengage/neutral, but it was too late.

The port end of the tow bridle got wrapped in the starboard propellor, and the engine shut down. We were drifting away from land, which was too deep to anchor. I put a mask on with a dive light and entered the water to assess what had happened. The tow line had gone through the middle of the rudders and, fortunately, had not damaged the propeller shaft or rudder. The towing bridle was, however, bar-tight and had to be cut off. I alerted the other dive master to assist me, and we went under the hull and cut the line off the propeller. This took about 10 minutes to complete.

Once we had re-positioned and anchored, I spoke with the captain about what had happened. He said he looked into the stern-facing camera when he was in neutral. He saw the tender approaching and thought that we were pulling it in, so he gave the tug a kick astern to assist with retrieval. He was unaware that the bridle was already slack in the water. None of this was communicated until after I shouted to go into neutral.

Our usual procedure is to have a minimum of two people astern and constant communications. We were ten days into a charter, and everyone was very fatigued. The captain was well over his hours. The fault lay on both sides: I should have radioed the captain and said I was sorting the fenders first. He assumed I was standing by but didn't confirm or ask if it was okay to come astern. We were fortunate!

Our usual procedure is to have a minimum of two people astern and constant communications. We were ten days into a charter, and everyone was very fatigued. The captain was well over his hours

CHIRP Comment

A work operation such as this is risky at any time, especially in the early morning. A toolbox talk beforehand would have ensured that everyone understood the plan.

A risk assessment and comprehensive brief were required for this work, and all underwater equipment and inlets/outlets were correctly and appropriately isolated with a LOTOTO system.

Carrying out work in darkness and in the early hours when everyone is tired increases the risk of a mistake. Getting rest before carrying out this work in daylight with all crew available to assist if anything goes wrong is a much safer alternative.

Factors identified in this report

Fatigue- Early morning activities are always difficult, especially if crews are already fatigued, and decision-making can be affected. Could this operation have been timed for daylight when the crew could be better rested?

Communications- Establishing communications before the activity commences is essential, and for safety-critical tasks such as this, closed-loop communications are the safest method.

Teamwork- Teamwork in small teams usually works very well, but in this case, it broke down. This is a reminder that from time to time, even on very well-run vessels, we all need to check on each other to ensure everyone knows what is happening.

2. Commercial Fishing

It is encouraging that we now have enough reports from the fishing sector that we can publish a separate edition of FEEDBACK for them. Whilst fishing is a specialised occupation, safety is universal, and we can all learn safety lessons from the reports below.

Among other things, we learn about the dangers of fishing alone, less-than-perfect port practices, the importance of checking for signs of wear, and the expense and inconvenience of a fouled propeller.

Once again, factors around communications appear most often. Not surprisingly, local practices and situational awareness are also prominent, and design issues feature in two reports.

These days, it is not acceptable to do things simply because 'everyone else does it' or because 'it has always been done like this'. We urge members of the fishing community to discuss issues of concern and take action where necessary. Sometimes, all it takes is a report to CHIRP!

Among the human factors we discuss are:

communications

- use clear and effective communication during toolbox talks
- do you have daily and weekly work planning meetings?
- carrying a means of summoning emergency assistance can save your life
- hand-held VHF radios are essential equipment

local practices

- ports should ensure that relevant safety rules are applied to local vessels
- rig a ladder overside so you can get back on board in an emergency
- try to lay pots away from navigational routes
- situational awareness
- always think 'what if...?' and be alert to your surroundings
- keep a sharp lookout for poorly-marked lines

design

- the means of isolating machinery should be simple and idiot-proof
- use properly-sized marker buoys so they are clearly visible

M2166

Potentially fatal near miss

Initial Report

Our reporter told CHIRP that their 27m beam trawler was alongside, port side too, in the harbour for maintenance. They hoisted the port (inboard) trawl so that they could stand on the quayside and fix the nets. Just before they started work, the steel wire rope (SWR) parted, and the beam, stone mat and net fell at great speed over the side between the vessel and the quay, only narrowly missing several of the crew. A new rope was reeved, and, with the help of a diver, the gear was safely recovered.

In subsequent correspondence, the reporter stated that the ropes were regularly greased and checked for signs of wear. Ropes were also ordinarily end-for-ended approximately halfway through their estimated service life to further reduce the effects of wear on any one part of a rope. There was no indication that the rope had been overloaded or worn.

CHIRP comment

This near miss highlights the potential risks that can arise during maintenance and hoisting operations: even when good inspection and upkeep routines are in place, equipment can fail, and incidents can happen. Proper equipment inspection is crucial to identify worn parts early to minimise the risks of unexpected failures. Signs of wear include dark or rusty parts of the rope, breaking strands ('hairy rope'), or the rope's diameter narrowing. Keep the crew clear while the equipment is hoisted or lowered to minimise crushing, entrapment, or wire 'snap-back' risks. Use the required PPE during hoisting operations, like safety helmets. When lifting, avoid the sudden onset or release of tension: either can cause high shock dynamic loading, causing rope failure. Be aware of the maximum load that is allowed for the hoisting equipment in use

Factors identified in this report

Communication – Use clear and effective communication during the toolbox talk to highlight the hazards so that everyone involved knows the maintenance procedures and understands the potential risks. Do you have an emergency response plan to react to accidents or incidents?

Situational awareness – Crews should be encouraged to continually think "What if...?' and be alert to what is happening around them. Use the right PPE.

Teamwork – Working together and challenging the status quo during maintenance routines, especially ones not carried out frequently, is good practical safety management.

M2159

Propellor fouls on pot line

Initial Report

Shortly after a fishing vessel entered the main channel at the harbour entrance, the engine's revolutions unexpectedly slowed, and the engine temperature rose. A quick investigation revealed that a poorly marked floating line attached to a line of pots had become wrapped around the prop shaft. The line was cut free, but the engine would not restart, and the vessel had to be towed into the harbour by another fishing vessel which was, fortunately, passing close by.

Further investigation proved that the gearbox had been severely damaged and needed to be replaced, costing over £10,000 and two weeks' lost fishing time. Although the insurance covered the gearbox cost, the loss of income over the two weeks was significant.

CHIRP comment

Laying pots near a main channel can be attractive because the areas are rarely fished, usually in sheltered water, and are easy to access. However, CHIRP frequently receives reports about vessels becoming snagged on pot lines which have been poorly marked. In this case, the marker was an empty 2-litre plastic milk carton.

Fishers sometimes use floating line because even if the marker buoy is lost, the string of pots can often be recovered. However, it presents a snagging hazard, particularly at low tide, which is why port authorities prohibit it. Where the laying of pots within harbour limits is allowed, they should be laid away from the main channel so that the riser is kept well away from the channel.

Losing control of a vessel inside a busy harbour can easily cause collision into moored or passing boats or an uncontrolled grounding. Both can result in a pollution incident which would close the port. For these reasons, CHIRP discourages laying pots near main navigational routes.

Factors identified in this report

Local practices – Check whether your harbour allows pots to be laid inside the harbour. Where it is permissible, lay away from navigational routes or among lines of moorings. Where practicable, ensure the riser is at the end furthest away from the channel, and avoid using a floating line.

Design – Be aware of any local requirements regarding the design and size of marker buoys, and in any case follow local 'best practice' to avoid dangerous situations and to minimize the risk of losing fishing gear.

Situational awareness – Keep a close watch out for poorly marked lines inside the harbour and navigate with caution. Have an emergency plan to react quickly to an unexpected loss of control or steering. Report poorly marked lines inside harbours to the harbour master so that they can inform the owner to take appropriate measures.

M2102

Caution: short-cuts can bite!

Initial Report

The engineer on a fish processing vessel needed to conduct maintenance on a conveyor belt used for moving boxes of fish. When work on the processing deck was temporarily stopped for a crew break, the engineer activated the emergency stop so that the conveyor belt would not be reactivated while they worked on it. They should have informed the crew of their maintenance intentions.

After the coffee break and once processing had restarted, the engineer wanted to check whether the tension on the chain was correct. While the engineer was checking the chain's tension by hand, an approaching box of fish activated a sensor that instantly switched on the conveyor belt, causing the sprockets and chain to start moving. The engineer's startled reaction was to pull their hand back because their fingers were trapped under the belt, tearing off part of a fingertip.

CHIRP Comments

The engineer failed to isolate the system completely and thought activating the emergency stop would prevent the system from operating. CHIRP contacted the company and received very positive feedback on how they would ensure that this type of incident would be prevented from happening again.

CHIRP was informed that the risk had been identified in the risk assessment for this work; it did not include Lock Out, Tag on, Tag off (LOTOTO) procedures which were only available for work on electrical systems and not on equipment with moving parts. The company have made changes to include this safety procedure for all equipment with moving parts.

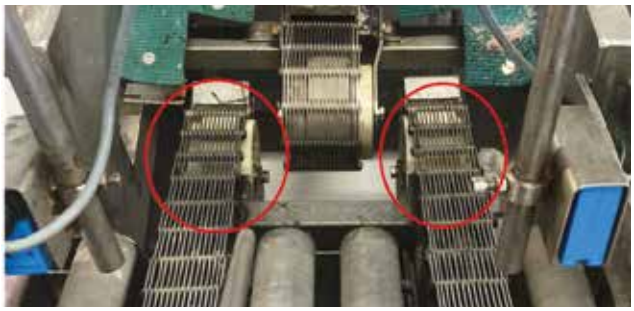
Everyone must be briefed on planned maintenance work at the daily work planning meeting to ensure that conflicting work activities can be rescheduled and that adequate time and resource is allocated to the task. Because no one else was aware of the engineer's intentions, the incident outcomes could potentially be even more severe.

Factors relating to this report

Communications – Does your vessel have daily and weekly work planning meetings and is the work communicated to the rest of the crew? Would you display a notice board showing daily and weekly work activities?

Pressure – Self-imposed time pressure led to shortcuts being taken. Planned maintenance should not be rushed.

Design – It should have been impossible for the conveyor to restart until the emergency stop button was reset. Emergency cut-off systems are not an acceptable alternative to the established pre-work isolation routines.



M2073

Collision between a fishing vessel and ferry in port

Initial Report

Shortly after a RO-RO ship left its berth, it collided with an inbound fishing vessel. The fishing vessel sank, but all 7 of the crew were safely recovered. In this port, vessels needed to request permission to enter or leave so that vessel movements could be deconflicted by the port's traffic services to avoid potential collisions, although this rule was often ignored by smaller vessels. In this case, the fishing vessel did not have a working radio, so there was no communication between the vessel and the port, nor could it hear that the RO-RO vessel calling after it had left its berth.

CHIRP comment

The causes of this incident were present a long time before it happened. By allowing smaller vessels to ignore the requirement to radio for permission to enter or leave, deficiencies in the ports monitoring or detection systems went unnoticed. Potentially, the reduced emphasis on radio communication from small vessels made it less likely that fishing vessels would carry a spare radio, and possibly meant that the failure of the primary radio went unnoticed. In any case. The port did not detect the inbound vessel and granted the RO-RO permission to leave its berth.

The activities involved in entering or leaving a harbour likely distracted the bridge teams on both from their primary task of keeping a good lookout to detect the risk of collision (Collision Regulations rule 5). In any event, even when risk of collision was determined, neither vessel took the correct action to avoid collision (rules 8 and 17).

Factors identified in this report

Situational Awareness – This report highlights the importance of effective monitoring and detection systems to be in place, especially in high-traffic areas. Port entry or exit is a high-risk operation, and vessel operators should be vigilant and maintain situational awareness to prevent collisions.

Communication – If the fishing vessel had carried a hand-held VHF as a back-up, (which in any case is essential emergency equipment should you ever have to abandon ship) this incident might have been avoided. The fishing vessel's inability to inform the port of their intention to enter or respond to the ferry's attempts to contact them contributed to the collision. Timely and clear communication between vessels and port authorities is essential for safe navigation. A radio check before leaving or entering the harbour is good seamanship.

Local Practices – In this port, smaller vessels commonly ignored the requirement to request permission to enter or leave. The port authority should enforce the requirement to report because it hampers the port's ability to operate a safe harbour. Are you aware of your reporting requirements when arriving or departing a port?


5·9

3. Recreational and Diving

The reports in this section contain some acts of complete folly, albeit sometimes followed by acts of considerable bravery. Naturally we tend to focus on the folly, and it is hard to escape the conclusion that this may be a sector where more oversight is needed.

We hear of a yacht tender where the crew did not wear life jackets or attach the kill cord, and a yacht where the watchkeeping arrangements left a lot to be desired. A dodgy dive vessel appears to have been riddled with defects and plagued by the effects of structural changes which do not seem to have been considered from the point of view of stability, whilst another dive vessel managed to injure a diver by starting its engines at the wrong time.

Although this is a relatively short section, the range of human factors we discuss are among the most extensive in this Annual Digest. You will find references to overconfidence and complacency, communications (again), situational awareness, teamwork, pressure, distractions, fatigue, design issues, culture and alerting. There are useful lessons here for all of us, including:

complacency
- always use a kill cord and wear a suitable lifejacket

communications
- when working away from the mother ship, scheduled reporting calls are vital

situational awareness
- monitor the position of other vessels and know how their wake will affect you
- it is difficult to estimate the depth of a diver once they leave the surface
- an unexpected list may indicate a stability problem. Do not ignore it

teamwork
- additional lookouts are vital in busy and congested waters

pressure
- be aware of, and challenge inappropriate time pressure
- commercial considerations must never be at the expense of safety

distractions
- do not manoeuvre until you are sure it is safe to do so
- distractions reduce situational awareness

fatigue
- a key characteristic of fatigue is that it reduces your ability to make rational risk assessments

design
- when changing a vessel's structure, the stability must always be re-calculated

culture
- operators and owners have a duty of care to their passengers and crew

alerting
- every vessel should have a medical emergency plan

M2089

Tender capsize when towing inflatable places 4 in lethal danger

Initial report

A superyacht tender crewed by a driver and a spotter was towing two guests on an inflatable tow.

As a ferry passed close by the tender, its wake caused both guests to be thrown off the inflatable. The spotter informed the driver, who turned the tender, but a combination of the fast turn and the ferry's wake caused the tender to flip over. Neither the driver nor the spotter was wearing lifejackets, and the driver was not using a kill cord. Both crew members were thrown clear of the tender.

The driver noticed that the outboard engines were still running and dived under the upturned hull to turn them off. Fuel had leaked, and the area under the hull contained strong petrol fumes, which nearly caused the driver to lose consciousness. The driver also considered the situation a fire risk, isolated the batteries and turned off the engines before escaping from the upturned hull. However, the spotter, who had since gathered the guests onto the inflatable, had to assist the driver, who was struggling due to inhalation of toxic fumes.

The crew members then tried to right the tender but could not do so. They were not carrying any communications equipment, so they could not raise the parent vessel's attention until another vessel passed by (about fifteen minutes after the accident) and radioed the parent vessel.

Unfamiliarity with the equipment onboard meant that it took a further fifteen minutes for the parent vessel to launch a second tender to come to their aid, by which time the guests and crew members had been in the water for thirty minutes.

The guests, crew and tender were recovered to the vessel, where the guests were treated for shock. No further medical assistance was required.

CHIRP Comment

This troubling report raises several 'red flags' about the poor safety culture on board this superyacht. Guests may not be aware of or appreciate the potential dangers of towed inflatables – but the crew should have been, and they should have led by example and worn their lifejackets, used the kill cord, and carried an emergency means of attracting attention. Some kill cords are designed to act as an interlock, so the boat will not start until the kill cord is fitted. *Readers may remember the 'Padstow' incident, where several people were killed or received life-changing injuries by being run over by their own boat.*

The crew must also be aware of their operational limits. Ferries typically follow a set route, so the tender likely passed close to the ferry rather than the other way around, as reported. A ferry operating at speed will produce a large wake and, if not anticipated, can cause towed sports equipment to capsize. The tender must have a spotter to provide adequate warning to mitigate the risks of large wakes and other nearby craft and floating objects.

CHIRP strongly recommends that guests wear a buoyancy aid. Despite some resistance to doing so, if a proper explanation that they are essential safety aids is provided to the guests, then it will be more likely that they will be worn – including with the crotch straps properly in place.

Once the boat had turned over, diving under the hull was also questionable because of the risk of becoming snagged on equipment and drowning. Most engines are gravity fed, and just left alone, the engine would have run out of fuel and stopped very quickly.

All fuel lost in an incident has an impact on the environment. The amount lost will be relatively small and will evaporate. However, the loss must be reported.

Factors identified in this report

Overconfidence/Complacency: Not using a kill cord or wearing a lifejacket demonstrates overconfidence – expect the unexpected. CHIRP believes that this should be a mandated requirement within your Safety Management System!

Communication: When operating at range out of sight of the superyacht, it is helpful to have a pre-arranged check-in periodicity, e.g., every 20-30 minutes. That way, if you cannot be reached, the parent vessel is alerted to a potential problem. Carrying a means of attracting attention must be a part of every tenders emergency response kit.

Situational awareness: Know where other vessels operate and how their movement or wake will affect your vessel or any towed inflatable. Be ready to move violently when encountering the wake or anticipate that riders might fall off the inflatable.

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."

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.

M2136

Capsize of a Dive Safari Vessel and Rescue of Tourists and Crew

Initial Report

Two additional decks had recently been added to a large liveaboard diving vessel which was subsequently chartered by a diving group for a trip to do both wreck and reef dives.

Early in the voyage, members of the dive group noticed that the vessel had a consistent list to port of approximately 2 to 3 degrees. They raised this with the crew, who assured the divers that this was most likely due to the unbalanced filling of the freshwater tanks for the voyage.

The vessel departed in the morning, and group completed two guided dives before the vessel went to anchor overnight. It was a calm night, but the group noticed that the list had increased to 4-5 degrees. Again, the crew reassured the group that all was well.

At first light, the vessel got underway and set off to another dive site – this time with a list of 5-6 degrees. As it approached the main shipping lane at 10 knots, the vessel heeled over to starboard and over the next hour the list progressively worsened until it capsized onto its side in less than 30 seconds. One of the vessel's life rafts was released but did not inflate as the painter was not secured to the vessel. It was later manually inflated but could not be righted. The 2nd life raft was released and inflated, and the vessel's tender boat, despite being slightly damaged, was used to tender passengers and crew to the life raft. Flares were released, and other nearby dive vessels came to assist. The dive team on board carried out dangerous and courageous rescues within the vessel to free trapped passengers and crew.

All passengers and crew (35) were eventually accounted for and taken back to port, where further assistance from the navy was provided to the traumatised survivors.

According to our reporters, escape from the vessel was hampered by missing handles on one of the emergency escape hatches, and missing handrails on the stairs between decks made it extremely difficult to get out of the vessel. The lack of securely fastened furniture, including unsecured beds, also created a hazardous environment with floating debris obstructing escape routes. None of the passengers received a safety briefing upon boarding the vessel.

CHIRP Comments

Significant structural changes invariably affect stability, and inclining tests must be conducted to update the vessel's stability curve data. Despite the passengers raising concerns on several occasions, it is troubling that the crew neither recognised nor reacted to the obvious warning signs. At best, this indicates a lack of training and at worst, the company put commercial interest above crew and passenger safety by continuing the voyage. Although the vessel had significant safety design defects e.g., lack of handrails on the steps between decks, the crew also demonstrated a complacent attitude to safety: items were not correctly secured for sea, nor were basic safety items such as the life raft painter correctly fitted. These, and the lack of a safety briefing for the guests, all point to a poor safety culture compounded by inadequate crew training and competency,

The successful rescue of all passengers and crew is a testament to the diving guests' exceptional bravery and quick thinking. CHIRP has maintained contact with the dive team following the traumatic rescue. Many of them, including the passengers, are now receiving trauma counselling therapy.

Factors identified in this report

Design – Poor design choices when installing the additional decks significantly affected the vessel's stability. Scrutiny of the stability requirements should have occurred before the refit; and after the work had been completed, it should have undergone an Inclining test overseen by the Class society and Flag.

Pressure – Commercial pressure to return the vessel to service meant that stability tests and sea-trials were not conducted. And once it had begun its fee-earning voyage, passengers' concerns were ignored, which ultimately led to the vessel's capsizing and endangering the lives of all passengers and crew. **Commercial considerations must never be at the expense of safety.** If you are a crew member joining (or on) a vessel that has had substantial structural change, ask to see evidence that stability tests and sea trials were correctly carried out.

Situational awareness – The crew did not recognise that the unexpected list was a sign of potentially inadequate stability, nor did they react when this got worse during the voyage. This is most likely due to insufficient training.

Culture – The operating company and the owners lacked care for the passengers and crew, as reported to CHIRP. They were not offered any counselling following their traumatic ordeal and had little in the way of any compensation despite losing all their equipment and possessions. Their lives were only saved because of their professionalism as divers.

M2152

Personal injury while diving

Initial Report

During a recreational wreck dive off a chartered dive vessel, a diver was hit by the turning blades of the dive boat's propeller, sustaining significant injuries. The diver was transferred to the local hospital and had their wounds stitched. Coastguard assistance was not requested.

The wreck is best dived while there is still a weak tide over the site, ie close to slack water. The divers had therefore to be dropped up-tide of the wreck to counter the effect of tide while they descended from the surface to the wreck. Once the skipper was satisfied that they were in the right position, the engine was put into neutral to stop the propellor spinning, and the divers entered the water as a group. They swiftly conducted last minute checks before making themselves negatively buoyant and leaving surface.

On the dive boat, the engine is only put back into gear once is it visually confirmed that all divers have left surface. CCTV coverage of blind spots under the hull provide additional assurance. However in this instance, when forward propulsion was engaged, it collided with the diver who sustained serious injuries.

CHIRP Comment

The effect of tide on the boat meant that it drifted back over the location where the divers had entered the water. Although it was visually confirmed that they had all left surface, the crew on board had no way of knowing that at least one diver remained at a shallow depth, with whom they then collided when the engine was put back into gear.

The use of Surface Marker Buoys (SMB), or the laying of a shot line for the divers to hold while they descend would have provided the dive boat a visual clue to the divers' locations.

This injury was potentially fatal, and CHIRP has contacted the reporter for additional information to determine what happened. With the reporter's permission, CHIRP has also contacted the relevant Flag and the appropriate Accident Investigation Authority because of the seriousness of the incident.

Factors identified in this report

Situational Awareness – It is very difficult to determine the depth of a diver once they have left surface. This was not adequately taken into account by the dive boat's helm.

Distractions – The boat was manoeuvre before the vessel was clear from the diver. Many stimuli, commercial pressure, fatigue, wrong signal cues from the crew, and overconfidence can cause this.

Alerting – given the severity of the incident, medical attention is required immediately. This did not happen, according to the reporter. What are your medical emergency plans in similar circumstances in your company?

The crew on board had no way of knowing that at least one diver remained at a shallow depth, with whom they then collided when the engine was put back into gear

4. Cruise and Ferry

Two of the reports in this section come from opposite ends of the spectrum. In one, a passenger is the reporter and having been on several cruises he is able to compare his experiences and raise some very valid points. In another, it is the ferry company who submitted the report about one of their crew members who miraculously survived being hit by a truck. This underlines the point that useful reports can come from almost anyone, so if you see something which concerns you, please get in touch with us.

In this section, the most common human factors we identify are:

alerting
- seek 'stop work' authority if you see a task is unsafe
- if something is not right, report it
- normalisation of risk must not become embedded

pressure
- can work wait until more time is available?
- check for time and/or commitment pressure. Listen to the crew
- pressure to maintain cosmetic standards must not override safety considerations

local practices
- beware of inadequate procedures
- do not lift any item of equipment not having a lifting test certificate
- operating practices should be standardised throughout a fleet

spatial awareness
- risks must be highlighted prior to starting work
- communications
- visual presence of the crew is vital at passenger drills

fatigue
- fatigue will lead to poor concentration and increased risk-taking

teamwork
- good leadership will prevent lack of teamwork

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 t he 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.

M2121

Passenger ship evacuation procedures

Initial Report

This report was submitted by a passenger on a cruise ship and concerns passenger evacuation procedures and access to lifesaving equipment.

The reporter stated that they were frequent travellers on passenger ships and had concerns about varying safety standards between cruise liner companies. Of particular concern on one cruise were the following issues:

The mandatory passenger emergency muster drill before departure needed to be better organised. Signage must be clarified, and the presence of crewmembers to guide passengers to their muster stations must be included in some sectors of the evacuation route. The captain's safety speech could have been clearer on where to go and what

to do in an emergency. Life jacket signs were posted in the stateroom, but there were no life jackets, raising concerns about passenger familiarisation and safety in an emergency.

The reporter felt that more crew training was required on emergency procedures, including passenger evacuation, but noted that due to the high turnover of crew due to the pandemic, some experience was lacking.

Also, fatigue could be a problem for some crew members with many tasks. The reporter stated that regular drills should be conducted in both crew spaces and passenger areas to ensure preparedness.

CHIRP Comment

CHIRP thanks the reporter for highlighting what they perceived as the inadequacies of the passenger muster drill before departure.

The muster drill is a fundamental safety procedure that should familiarise all passengers and crew with emergency evacuation protocols. It serves to instil confidence and provide reassurance, especially for individuals who are new to cruising.

The amended regulation III/19 in the International Convention for the Safety of Life at Sea (SOLAS) mandates that all passengers must participate in safety drills, including mustering at lifeboat stations, before or immediately upon departure. Cruise companies are responsible for conducting these drills efficiently and effectively to ensure everyone knows their emergency muster and evacuation locations.

The muster drill should be allocated adequate time to ensure passengers and crew fully understand the procedures. Crewmembers must be trained to guide passengers to their designated muster stations confidently. They should be able to respond to queries raised by passengers.

Clear and visible signage and instructions throughout the ship are crucial to assist passengers during emergencies. These should help passengers to locate their muster stations and understand evacuation routes quickly.

Recognising the demanding and stressful nature of work on a ship, it is essential to manage crew workload and consider the experience level of crewmembers. Fatigue, stress, and a high workload can impede the crew's ability to focus on safety protocols.

CHIRP encourages passengers to seek guidance from the crew if they require additional clarification about the evacuation procedure. Crewmembers are there to assist and ensure passenger safety.

CHIRP encourages cruise companies to allocate more attention and time to enhancing their emergency drills and evacuation procedures. Actively seeking feedback from passengers on what worked well and what could be improved is vital for ongoing safety enhancements.

CHIRP contacted the DPA for the cruise liner company and received an excellent response. They immediately took action to investigate the passenger's concerns based on CHIRP›s information and provided their feedback. They made some changes to their training and familiarisation procedures. This action is highly commendable, highlighting a good safety culture at all levels in their organisation.

Below is an account of the actions undertaken by the DPA.

The DPA joined the ship for a brief sea trip to investigate reporter comments. During the trip, an emergency evacuation drill was conducted, and attendance for the passengers was electronically verified. The vessel consistently maintains a 94% attendance rate, with non-attendees receiving letters for personal review. Cabin TVs show a safety video before other channels can be accessed, with no override.

The DPA reported that crew training has been increased as needed. It was noted that stairway guides and muster station teams were effective. Concern about the loss of experience due to the pandemic has been addressed with increased training for the crew. This was verified during an inspection by the Class during a simulation drill for passenger evacuation and was approved without any comments.

Increased focus on the passenger familiarisation meeting by the cabin attendants, including locations of life-saving items, was noted during the DPA's tour, and cabin attendants greeted passengers and explained lifejacket locations on embarkation day. Signage was also improved and addressed across the fleet. Compliance was monitored by housekeeping management and confirmed during the Passenger Ship Safety Certificate (PSSC) audit by the Class.

This demonstrates how open communication and a willingness to report can yield positive outcomes in the maritime industry.

Factors related to this report

Local Practices – Beware of inadequate procedures that cannot be correctly implemented. Report them to bring about a change if they cannot be met due to working conditions/workload.

Communications – The visual presence of the crew, properly attired at a passenger muster drill, is a high-level form of visual communication. It reassures passengers that there is guided safe access during evacuation. This will be the first time the passengers get to see the crew, and whilst many passengers are regulars, there will be many first-time cruise passengers.

Alerting – If something is not right, report it. Management will thank you for finding something that they have not noticed.

Culture – A strong safety culture is a commercial selling point that will bring passengers back to the ship for other cruises.

Pressure – There may be time/commitment pressure on the crew, which means shortcuts could be taken. Carry out an audit/review to determine if this does exist. Listen to the crew.

M2172

RoRo crewmember hit by vehicle while unloading

Initial Report

This report was submitted by the company, who are to be commended for being so willing to share this incident report to enable others to learn from their experience.

Ultimately, the incident serves as a reminder that even skilled crewmembers and freight drivers can face danger during routine tasks

The incident involved a distressing personal near-miss incident on a RoRo cargo ferry. The crewmembers responsible for the daily task of overseeing freight movements were experienced and qualified individuals. During the incident, the reporting crewmember positioned himself in a blind spot in front of a freight vehicle. Unfortunately, he was knocked over when the freight driver misinterpreted a "thumbs-up" signal from the linkspan operator. This signal indicated that the freshwater hose had been successfully connected. However, the freight driver incorrectly interpreted this gesture as a cue to proceed with discharge. This misinterpretation occurred despite the presence of red flashing lights that were meant to signal that it was not yet safe for vehicles to move.

The incident unfolded in a generally favourable environment with mild and dry conditions, good visibility, and moderate background noise from fans and vehicle engines. Noise from fans was also audible within the driver's cabin.

The Linkspan area was adequately staffed within the organisation with three crewmembers. A senior rating led this team, overseeing the deck and the discharge process.

The equipment used in the incident was functioning correctly. However, concerns were raised about the effectiveness of the red flashing lights as a control measure. Past instances have shown that these lights can sometimes be disregarded, indicating a weakness in their ability to influence behaviour and prevent accidents.

CHIRP's comment

Conflicting work activities were taking place when the incident occurred, and there was no common situational awareness.

The incident's beginning lies in certain assumptions made by both the crewmembers and the freight driver. The crewmembers operated under the assumption that freight movement would only commence upon explicit instructions from the designated authority figure. Their belief in the red flashing lights being an effective safety measure to regulate freight movement created overconfidence, contributing to the incident. Additionally, they trusted that the presence of the bosun in the freight vehicle's path would deter any untimely movement of the freight vehicle. However, the bosun, who was in the blind sector of the freight vehicle, could not be seen by the freight driver, so he did not provide any physical deterrence.

Conversely, the experienced freight driver held his assumptions. Upon seeing a thumbs-up signal from the linkspan operator (which actually confirmed the freshwater hose had been connected), the driver interpreted it as a clear directive to proceed, ignoring the red flashing lights.

The presence of the bosun in a blind spot, invisible to the driver, cancelled out the intended human barrier to prevent movement. CHIRP advocates using physical barriers instead of relying on human presence – even a coloured rope is better than nothing. CHIRP also recommends that the linkspan operators who are not ship's staff should wear different coloured surcoats/hi-vis tabards.

Several significant takeaways emerged from this incident. It highlighted the inherent hazards linked with vehicle decks and underscored the importance of addressing blind spots. Direct eye contact with drivers emerged as a fundamental communication strategy, but one which can be mistaken by the freight drivers, emphasising the importance of unambiguous signals.

The incident also demonstrated that in the absence of a physical barrier, drivers might initiate movement at their discretion, regardless of control measures like the red flashing lights. The incident highlighted the normalisation of

risk, underscoring the necessity of sustained vigilance, even for familiar and routine operations.

Ultimately, the incident serves as a reminder that even skilled crewmembers and freight drivers can face danger during routine tasks. It underscores the importance of clear and universally understood communication, particularly within hazardous environments on RoRo cargo ferries. Thankfully, the bosun did not suffer any physical injuries.

An IMCA video highlighting the risks of placing yourself in front of a hazard can be found here: Line of fire – IMCA (imca-int.com)

CHIRP strongly commends the management of the RoRo ferry for such an open and honest review of this incident report. Such incidents are rare, but CHIRP is sure that the company's safety culture has improved, and the lives of those working on the ferries will be safer.

Factors related to this report

Alerting – Everyone involved in the operation must be reminded of the hazards of movement across the linkspan. The normalisation of risk must not be allowed to become embedded. Regular training is required both for linkspan operators and freight drivers.

Local Practices – It's vital that the company standardise theoperating practices on all their RoRo ferries..

Situational Awareness – All operators working in the linkspan environment must know they are working near hazards and potential blind spots. Before the transfer operations begin, this risk should be highlighted in the toolbox talk.

Distractions – Operating procedures must ensure that nobody is subjected to distractions, given the hazardous environment of large freight vehicles operating across the linkspan.

Fatigue – All operators working within the linkspan area must be adequately rested. Fatigue will lead to poor concentration and risk-taking if allowed to become the norm. Are your crew meeting compliance with the Hours of Work and Rest (HWR) regulations?

Insight: Seafarer Welfare Meets Seafarer Safety

By Dr. Jason Zuidema, Executive Director, NAMMA

For the majority of the nearly 2 million commercial seafarers on the world's oceans, a contract is defined by homesickness and giving up life with your loved ones. 6- to 9-month contracts away from home are typical. Even the most resilient experience loneliness, other mental and physical health issues, and simple unhappiness or despair.

This is an industry-wide challenge. Shipping companies bear the ultimate responsibility for the welfare of their seafaring colleagues and making supportive communities onboard. Many make this a priority; others do not; all have more to do. In ports around the world, however, voluntary seafarers' welfare agencies attempt to bridge the gaps.

These agencies have different names and affiliations, but many of their services tend to be the same: SIM cards and wifi, drop-in centres for relaxing and calling home, buses and vans for excursions, free clothes and Christmas shoeboxes. Many agencies advocate for seafarers in their ports, and many coordinated vaccinations during the pandemic. A vital service is the presence of caring people. Ship visitors go on board to check in and share information, transport drivers have friendly conversation en route to the shops, and chaplains offer personal and spiritual support. The posture of all seafarers' welfare workers or volunteers is a listening ear and a determination to be of help.

In North America, a diverse range of port-based seafarers' welfare agencies gather together under an umbrella association called the North American Maritime Ministry Association (NAMMA). Through NAMMA, they network with each other, train new people, and advocate for seafarers' welfare at the national and international levels. This is done above all through conversations at NAMMA's annual conference.

The 2023 conference, held in Seattle, had more than 100 representatives from seafarers' welfare agencies across the world. Among the speakers was Capt. Dave Watkins of CHIRP Maritime, and he reminded the attendees that there is no separating our responsibilities - no seafarer is well when their safety is ignored, and none are safe when their welfare is ignored.

This unity - safety and welfare together - can be very practical. Ship visitors collectively visit thousands of ships a month across North America, and seafarers tell them things that they might not entrust to people in positions of power. In fact, a ship visitor from Central America who was at the conference used CHIRP's help to report and resolve a serious safety issue for a seafarer they met. As with a friend in need, the messy, intensely personal work of building relationships is one of the key ways that welfare agencies look out for their safety.

Seafarers should know that they are not alone, even when they are far from friends at home. In some ports, the only option is a text or voice chat service. But in many ports in North America and around the world, our colleagues are visiting them as friends and confidantes, helping them protect their safety, and building "homes away from home" for seafarers.

5. Superyachts

The bumper crop of reports in this section reflects the success of our new Superyacht FEEDBACK, but the safety lessons are universal, so the reports can be usefully studied by all of us. Fortunately, most readers will not have to deal with obstreperous owners and their drunken guests, but all masters will face commercial pressure at some stage in their careers, even if their cargo is less troublesome.

The first report is a classic, and tragic, example of pressure on the master, but we also consider failed lifting points, a lithium-ion battery fire, anchors, poor chart coverage, poor risk assessment and a host of other topical issues which are well worth reading.

Perhaps it should not be a surprise that the most common safety factor identified in this section is pressure on the crew and the culture which exists on many superyachts, but we also cover several cases involving alerting, local practices, complacency, teamwork and planning, capability, spatial awareness and communications. These offer lessons which all of us can benefit from, as follows:

pressure
- bullying by an owner will adversely affect safety and crew welfare
- never put the wishes of guests or passengers ahead of safety
- never pressure the crew into undertaking dangerous tasks

culture
- a proactive safety culture is invaluable
- dismissing a person for reporting an incident is unjust
- the master must lead improvements to the safety culture on board and the company must support him

alerting
- are your crew members aware of the dangers of lithium-ion batteries
- a morning meeting to brief the crew on work activities will pay dividends
- navigation plans and other critical work must always be cross-checked
- challenging constructively is vital to safety

local practices
- always seek to reduce risk by finding better ways of doing things
- never jump from the jetty to your vessel or vice versa
- navigating solely 'by eye' is never safe
- always procure original spare parts

complacency
- test gear thoroughly before any operation
- seamanship still applies on vessels undergoing maintenance

teamwork
- proper planning prevents poor performance
- always ask for support or assistance if you need it
- do your crew feel empowered to challenge unsafe decisions?

planning
- a thorough risk assessment is never a bad idea

capability
- an officer unfamiliar with the bridge equipment cannot be considered competent
- only appoint senior officers who have maintained their skills
- spare parts must always be fit for purpose

spatial awareness
- spatial awareness can be seriously affected by stress
- check your surroundings before isolating propulsion machinery

communications
- keep track of all tenders deployed away from the vessel
- use closed loop communication for all safety-critical operations
- never let distractions interfere with efficient communications
- plan for loss of communications

M2088

Pressurised to make a fatal decision

Initial report

The superyacht was anchored in a bay where jet skis had been prohibited due to the density of traffic in the anchorage and a spate of previous incidents.

The owner was on board with a fellow guest who drank heavily. They requested that the jet ski be launched. The captain explained that using jet skis was prohibited and ill-advised when inebriated. The owner and his guest were insistent, and this conversation escalated until the captain was given the ultimatum of either launching the jet-ski or being dismissed.

The captain yielded to this pressure, and the jet ski launched. Shortly after, the owner's guest had a high-speed collision with a nearby vessel. The casualty was recovered from the water, unconscious and severely injured; the crew found he was not breathing and commenced CPR, but the casualty died before emergency services arrived.

The result was one death, a traumatised crew and owner, and the captain losing his job. He remained out of work for the following two years while under investigation and under the threat of criminal prosecution.

In my experience, Superyacht owners are often unreasonably demanding and need to respect the captain's command. Being told "no" is unfamiliar to them and seen as an insult. Captains who stand their ground risk being side-lined for their professional conduct, and those that do yield to such demands potentially face even more dire consequences.

CHIRP Comment

The drink had clouded the judgement of the guest and the owner, but the captain knew that jet-skiing in the bay was prohibited. Even if the owner had sacked the captain on the spot, once they had sobered up, they would most likely have realised that the captain was speaking objectively, not subjectively. However, even when it could place others in danger, it can still be hard to refuse a request or order by an owner, particularly if they are used to getting their way or see refusal as a challenge to their authority. In this instance, the owner bullied the captain into launching the jet ski against their professional judgement. However, a captain's first duty is the safety of crew and passengers, and they should have refused, no matter the circumstances.

To avoid such scenarios, captains are encouraged to confirm with the vessel's owner that they are empowered to refuse requests that put people or the vessel at risk of harm – and, crucially, that they will be listened to. Ideally, this should be done as early in the professional relationship as possible – potentially even at the interview. Shrewd owners will accept that the captain is looking after their interests. Where such assurances are not forthcoming, this should be a 'red flag' to the captain that safety on board is at some point likely to be compromised. Better to seek alternative employment at that point than find oneself being threatened with the sack in the heat of the moment. CHIRP wants to state that the master has other places to report this coercion, which should be made known to the master.

Factors identified in this report.

Fit for duty: Drink had impaired the judgement of both the guest and the owner.

Pressure/culture: The owner bullied the captain into going against their professional judgement. On board, such behaviour was reflected in the safety culture (and probably the welfare culture).

M2092

Near miss during lifting of a tender

Initial Report

While lifting a 9m tender into the garage, the forward lifting point gave way. Luckily, at this point, the tender was over the chocks and dropped about 30cm into position, causing only minor damage. A crew member was inside the tender but was not injured.

Lifting points were tested annually and visually inspected regularly, but due to the design, the underside of the lifting point was inaccessible, and any corrosion was not visible.

The lifting point was rebuilt and strengthened, and an inspection hatch was made. The vessel's SOPs were amended, so that crew members attach the crane hooks to the lifting points, exit the tender before it is lifted, and only enter the tender once in the water.

CHIRP Comment

The report is positive: many safety improvements were made, and the vessel is to be commended for its positive safety culture. The equipment's design hampered the inspection of the underside of the lifting equipment. Often, we dissuade ourselves from raising safety reports on poorly designed or installed equipment in the belief that they are 'too big to change' or 'it must be right – it was built that way'. But even naval architects sometimes get it wrong, and if it had been reported, it could have been rectified when next in refit. Do not be afraid to report and record concerns about design deficiencies. Organisational safety management systems operate on a cycle of continuous improvements, and ship designers will be only too glad to receive feedback so that improvements can be made.

Useful references that detail the examination and inspection regimes for lifting equipment include the UK MCA's MGN 332(M+F) Amendment 1 and the Cayman Island's Shipping Notice 04/2021. Additionally, UK MGN 560(M) sets out the SOLAS III/36 requirements for launching appliances; these must be adhered to if the tender is also classified as a lifeboat or rescue boat. Accompanying an inspector during a thorough examination is a good learning opportunity: watch what they check for and ask questions.

Factors identified in this report

Safety Culture – The swift rectification of these defects indicates a positive safety culture on board. On this vessel, the crew can be confident that their safety concerns will be listened to.

Alerting – If you see something wrong – speak up. Just because it was built that way does not mean it is correct!

Design – Readers are encouraged to be constantly vigilant to poor design and to feed this back to designers and architects who often do not have to work with the equipment they develop.

M2110

Lithium-ion Battery Fire

Initial Report

During recreational activities for the passengers, one E-foil jet ski stopped due to the battery running low while in use. It was decided to take the E-foil back to the yacht to replace the battery with a fully charged one.

The run-down battery was taken out and placed on the deck in the beach club and replaced with a fully charged one. 30 secs later, the used battery which had not been plugged in to commence charging, started smoking, and 3 secs later erupted into flames. The fire was extinguished in minutes using the installed hi-fog system and a fixed fire hose. The hi-fog automatically went off when two fire detector heads went into alarm.

A team wearing breathing apparatus went in after the flames were extinguished to retrieve the battery and ventilate the space before it was deemed safe to enter.

CHIRP Comment

The team handling the change of battery were very observant and acted swiftly to control the fire in its early stages, and the vessel should be praised for installing a hi-fog system and a fixed fire hose system as well as the response by the BA team. Clearly, there is a very good safety culture on board reinforced by good training of the members.

The leisure industry is using many more items of equipment that use lithium-ion batteries, so it is incumbent on all of us to better understand the hazards associated with their use.

Their unpredictable nature is a real cause for concern. CHIRP would like to understand in more detail why these batteries can be prone to spontaneous ignition and a thermal runaway reaction.

The thermal runaway occurs when the battery expels toxic gases, which ignite, rapidly increasing the temperature to a very high level.

It is thought that this can be brought about by the mechanical stress of the battery, heat stress or electrical stress, which can occur when overcharging the battery.

CHIRP feels that it is safe to say that good quality batteries which are properly looked after and taken out of service at the end of their life, should ensure that self-ignition is minimised or eliminated. CHIRP would welcome more reports on incidents involving lithium-ion battery fires.

Factors identified in this report

Culture: Excellent safety culture demonstrated by the boat crew – Does your organization have the same standards of equipment, training and response?

Local Practices: How thoroughly do you look at the procurement of batteries used to power your sports equipment? Do you have procedures for charging and disposal of the batteries?

Alerting: Are your members alerted to the potential hazards of lithium-ion battery incidents? Do you have a suitable training programme in place to mitigate the risks of a fire?

M2083

Tender grounding

Initial report

"I was asked to take guests on a sunset cruise on a jet drive tender around the island in the South Pacific. I warned the captain that multiple shallow spots on the main yacht's ECDIS were not shown on the Tenders. I was told to try, so we set off but halfway around the island, and as the sun went down, it became harder to see the unlit posts, which indicated the safe routes around the reef.

I decided to turn around, and on the return trip, we missed one post, and the tender went aground on a reef and could not refloat as the tender as the tide was dropping. We had no radio or phone signal, but a passing local f isher gave us a lift back to the yacht, and we returned with the fisher on the high tide that night to recover the tender."

CHIRP comment

The captain intentionally deviated from safety procedures in directing the tender trip to go ahead despite knowing that the charts were inadequate for safe navigation, particularly at night. This placed the reporter in a difficult 'no win' position: either to disobey their captain or undertake a trip against the rules of good seamanship. The reporter did challenge the captain, but the captain prioritised the guests' wishes ahead of theirs and the crew's safety which suggests a poor safety culture on board. It also means poor planning – had the trip been organised more thoroughly in advance, the inadequacy of the charts would have become known sooner, and an alternative route away from the reefs might have been possible, or the course reconnoitred by day and saved into the tender's ECDIS. The Master's standing orders should state that no tender should leave the mother ship without adequate communications equipment.

Similarly, a comprehensive risk assessment would have identified that VHF coverage would have been inadequate once out of sight of the parent vessel. A patchy phone signal should always be expected in remote areas.

Factors identified in this report

Culture: The captain's order to launch with inadequate charts was a safety violation.

Pressure: the authority gradient between the captain and reporter meant that the latter probably couldn't refuse the order. Putting guests' wishes before their safety indicates that the captain had not developed a good working relationship with the guests. A formal brief upon their arrival that "safety supersedes everything else" would have prevented the captain from putting themself under pressure to accede to the guests' wishes.

Teamwork/Planning: a thorough risk assessment, a better route choice, or a prior recce would all have prevented this incident.

Communications: When working remotely, assume that communications will be difficult. Does your vessel have a 'tender overdue' procedure to take proactive action to launch a search or rescue, even without communications? A tracking device fitted on the tender should be considered.

M2084

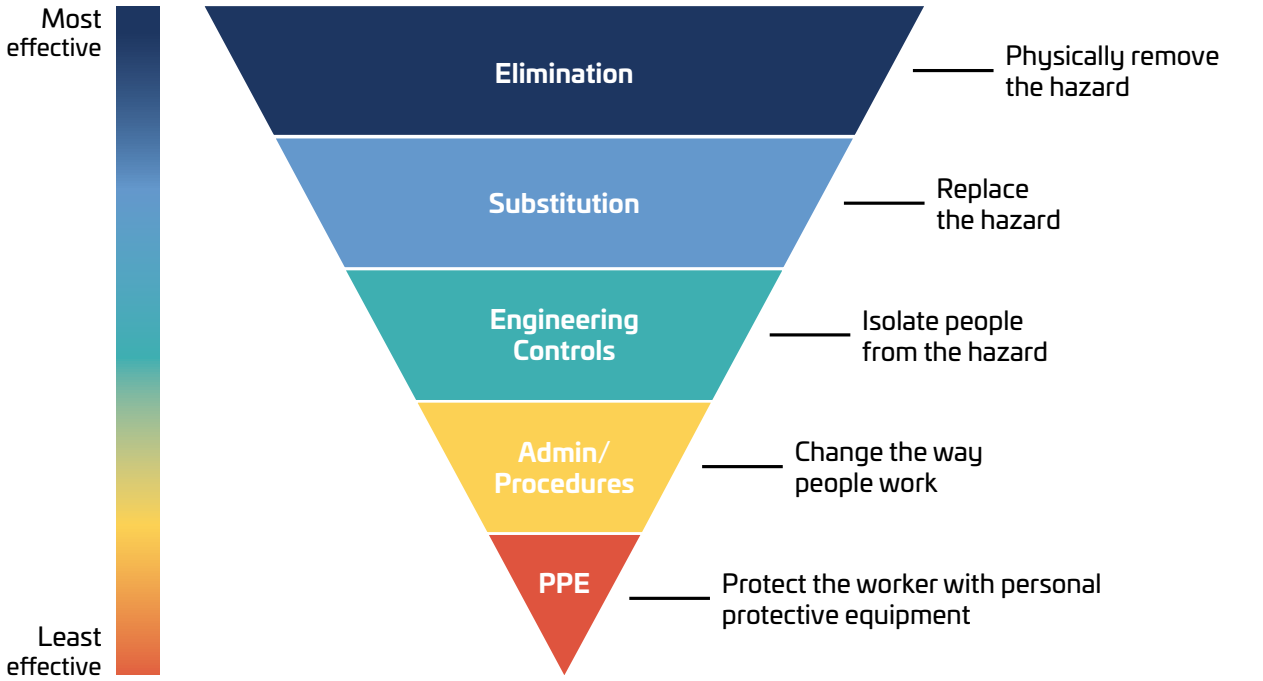
Entrapment in running equipment causes serious personal injury

Initial report

"On the dock, pulling on the running backstay requires someone pulling the block forward to keep lines off the teak deck. The supervising officer operated the winch at high speed, and the crew member on the block got their hand caught in it. As the block lifted, it hoisted the crew member roughly 5m high. It suddenly stopped, catapulting the crew back to the deck, missing the mainsheet track by 10cm. The casualty suffered a broken wrist, required stitches to the lip and chin, and was knocked unconscious for 5 minutes. The crew member had to pay for their flights home and was off work for a month."

CHIRP comment

There needed to be better coordination between the supervising officer and the person working the block. Clear verbal warnings that the hoist was about to start would have alerted the crew member to keep their hands clear. The use of closed-loop communications in such circumstances should be considered, e.g., the crew person responding "Clear!" to the officer's alert of "Operating winch!" or similar.



Large super yachts are fitted with powerful equipment items, and understanding their power must be part of the familiarisation process for all crew. CHIRP also asks whether the crew person was even needed. If the concern was that the block might scratch the teak deck, wouldn't a canvas cover or other covering have sufficed?

Use the hierarchy of controls diagram-eliminate the hazard.

Toolbox talks are not standard in the super yacht sector of this industry, but CHIRP recommends adopting them, including Stop Work authority.

CHIRP feels the owners have a duty of care to look after and support the injured crew until they fully recover.

Factors identified in this report

Communications: Use closed-loop communications for safety-critical evolutions such as lifting.

Teamwork: Better coordination between the winchman and the block handler would have reduced the risk of entrapment.

Local practices: Where possible, reduce entrapment risks by looking for alternative methods to achieve the aim. A floor covering would have been a safer option.

Culture: The report that the casualty had to pay to repatriate themselves suggests poor personnel and welfare standards on board, which is also an indicator of a poor safety culture.

M2085

Lack of familiarity with equipment puts the vessel in danger

Initial report

Our reporter served on a >500 GT yacht as part of a newly assembled crew. They were employed to take the vessel out of the dry dock and sail to the delivery destination. During the passage, an off-duty officer went onto the bridge and noticed a crossing vessel on the starboard bow. The officer on watch was asked if they were going to take action. The officer responded, 'Yes, using the autopilot.

The off-duty officer advised that the vessel was too close to use the autopilot and that the manoeuvre should be made using hand steering. The officer of the watch appeared to struggle to make the change over to engage hand steering and was quickly assisted by the off-duty officer to make the change over to hand steering and take avoiding action.

CHIRP comment

An officer must only take over a watch if they are fully aware of the functions of the bridge equipment. Familiarity with equipment, particularly that essential to safely control the ship, must be undertaken during initial familiarisation training.

If not sure, always ask for clarification. There is a lot to take in when being familiarised on joining, and some operations for the equipment can be complicated and quickly forgotten.

Factors identified in this report

Capability: The OOW was unfamiliar with the steering controls and would be considered not competent in the use of this equipment.

Teamwork: Good teamwork relies on knowing the strengths and weaknesses of yourself and your team members. In this case, the duty officer had not requested any support, probably through fear of looking incompetent.

Culture: When assembling a new team, especially on a short-term contract where everything and everyone is new to the team, it is essential to develop a safety culture. This is best achieved through basic emergency exercises, confirming that the emergency systems work as expected. The master is responsible for ensuring that all officers and crew can respond to emergencies and support each other.

M2086

Dangerous recovery of a person in the water

Initial report

During tender training in port, while making an approach, the helm discovered that the controls did not respond as expected because the throttle actuator had broken. The helm applied astern propulsion to slow the tender; this resulted in greater forward motion. The tender inevitably collided with another moored vessel, and the force of the impact threw the training officer into the water. They recovered themselves back into the tender by climbing up the stern drive props, which could have caused the trainer serious injury.

CHIRP comment

Although the trainer was undoubtedly in shock having been thrown overboard, the decision to get back onboard by climbing up the stern propulsion system was exceptionally dangerous, particularly given that the actuator had failed. The helm that remained on board should have directed the trainer away from the stern to get back on board the tender from the side of the tender using a recovery ladder.

Factors identified in this report

Situational Awareness: Situational awareness can be seriously affected when stress is high. While getting back on board, the tender may have been more accessible via the stern drive props; it was the most dangerous access point.

Pressure: Under time pressure to get out of the water, the training officer chose the most dangerous option to climb out. Even when the engine is in neutral, propellors can sometimes turn sufficiently fast to cause significant trauma.

Complacency: Before making an approach, it is advisable to check that the control systems and steering are functioning as expected. The tender's controls should always be tested at the commencement of any operation and verified as functioning.

M2090

A shortcut they'll remember for a long time

Initial Report

The yacht was moored alongside. There was a very high tide, and the swimming platform was at the l evel of the quay. On deck, a cleaning crew were scrubbing the teak swimming platform with a 2-part acid solution.

The chef went ashore for some provisions but realised he had forgotten something, so returned to the yacht. As he jumped from the quayside to the swimming platform, he slipped on the wet deck and twisted his ankle before falling into the water. The chef quickly recovered but had to take ten days off to allow his ankle to heal.

CHIRP Comment

Psychologically the chef would have felt inconvenienced in returning to the ship, so took a short-cut by stepping from the quayside to the swimming platform instead of using the gangway, which was longer, causing the injury. The chef's haste and focus on collecting the forgotten item were both distractions, and he either did not notice that the deck was wet or did not pause to consider that this could make it slippery to walk on.

Although the reporter does not say which side of the vessel the chef fell in from, unless they had slid the entire breadth of the vessel, they likely fell between the yacht and the quayside, where they could have suffered severe impact injuries or even crushing.

The superyacht industry is very focused on image and dislikes having areas of the yachts roped off while the teak decks are treated; as the stanchions are removed while the decks are treated, it is anyway often not possible to rope areas off. The gangway should always be the only safe means of access to and from a yacht.

The chef was unaware that the work was taking place. This should have been briefed to all the officers and crew at the daily work planning meeting.

Factors identified in this report

Time pressure: It is easy to put yourself under time pressure to meet an artificial target, but this also increases your risk of an accident.

Local practices: Jumping from the quayside is a bad habit and is fraught with risks due to the movement of the yacht, which can be unexpected. Don't do it!

Alerting: A morning meeting where the work activities are communicated to all officers and crew would have alerted the chef that the swimming platform area was not to be used. A warning sign should also be considered.

Distraction/Situational awareness: Be aware of your surroundings – even when in a hurry!

Take 5 before you start

- Practice scanning the enviornment and identifying things that may hurt you.
- Look for and recognise trip hazards, obstacles and other hazards.
- Now that the hazard has been registered in your mind, it is easy to control and avoid it.
- Continue scanning while performing a task; be aware of anything changing around you.
- If you find yourself drifting into "autopilot" STOP and take a look around you, refocus and continue to work.

M2091

Near miss approaching port

Initial report

Our reporter said, "I was woken up by my second officer, who had just anchored and finished his watch. He was distressed. He had the last navigation watch for arrival at around 0200, so as usual, the captain came to the bridge before arrival and then took over while the 2/O and lookout went to drop the anchor.

In this case, a guest and a bodyguard arrived on the bridge just after the captain, who became distracted during the handover due to the presence of the guest who stood at the helm.

The captain did not realise how close they were to the bay. The second officer realised that the boat was entering the bay too quickly but didn't feel he could warn the captain who was talking to the guest. He eventually warned him as the boat entered the bay at 14 knots, narrowly missed several anchored sailing boats and going aground."

CHIRP Comment

No matter how confident they might ordinarily be, many seafarers can find it challenging to speak up about an issue to someone senior. This is called the 'authority gradient' – the real or perceived difference in rank, experience, or social or cultural hierarchy. Pointing out an error is especially difficult in front of an 'audience', particularly if they are also perceived as 'senior' to ourselves.

Masters and senior officers can reduce the authority gradient by encouraging their team members to speak up – and praising them for doing so, even when the concerns are unfounded. The 2/O's distress suggests that the captain and the company had not fostered a culture of challenge and response on board. Developing a 'constructive challenge' mindset within the team has additional benefits, too: crew members become more confident, teams work more cohesively, problems identified earlier, and solutions are developed more creatively.

CHIRP and the advisory board members recommend that when guests board the vessel, they are informed during their safety briefing and familiarisation tour that during high-risk navigational phases of any passage, they should refrain from coming to the bridge or engine room. The master, who had arrived on the bridge with a guest, was distracted and not engaged with the navigation, including traffic and other hazards.

Clear communications are required concerning taking over the conn, and this was not evident. This indecision left nobody taking responsibility for the vessel's navigation, which fortuitously narrowly avoided collision and grounding. For the 2nd officer to be asked to leave the bridge to prepare the anchor long before it was required was bad practice. Another crew member could assist the lookout in preparing the anchor, and the officer attends to the anchor when the vessel has reached the anchorage position.

A very effective navigation risk control measure which would have reduced the vessels speed as the vessel approaches the entrance to a port, anchorage, berth or rendezvous point, is to annotate the passage plan with desired speeds so that the speed of the vessel is commensurate to the risks and allows the vessel to be stopped in a controlled manner.

Factors identified in this report

Communication: The actual or perceived 'gap' between the reporter and the captain could have led to a severe incident – collisions at 14 knots are likely to result in serious personal injury and significant hull, equipment or pollution damage.

Distractions: the master should make it clear to guests that during any port approaches or high-risk navigational areas, no guests should be on the bridge to maintain focus on safe navigation. This is in everyone's interest.

Culture: The 2/O distress suggests that the safety culture on board needed improvement. The master should set an example and highlight this incident as a start to change the safety culture on board and in the company. The company needs to be proactive here and support the master.

M2087

Maintain control... right to the bitter end

Initial report

A motor yacht was in a maintenance shed while work was carried out on the anchors and chain locker. On the shed floor, a deckhand stood below the hawse pipe to lay out the chain onto a pallet as it was 'walked out' on the windlass by a deckhand under the Bosun's supervision. The plan was to detach the bitter end and then walk it forward on deck so that a messenger line could be attached. However, as the bitter end was walked forward, a bight was created, and this then fell through the hawse pipe under its weight, narrowly missing the deckhand on the shed floor.

CHIRP comment

Dry-dock work is fraught with hidden safety risks due to the unfamiliarity of the working environment the crew find themselves in. A toolbox talk given by the officer or crew that has carried out this type of work before to highlight the risks associated with this work should have taken place before the work commenced. A job like this must not be rushed.

Friction and the chain's weight had probably stopped it from slipping across the forecastle. However, as the end of the chain was walked forward, the chain's weight (and thus friction) would have reduced sufficiently to allow the chain to surge forward under gravity.

It is not clear if the chain had been removed from the windlass or whether the windlass brake had not been applied. An independent means of controlling the chain, such as a 'stopper', would have prevented the chain from surging forward. These are quick and easy to rig and would have secured the chain while the messenger was attached to the bitter end and connected to the drum. As an additional safety precaution, the deckhand on the shed floor should have been directed to stand away from the chain while it was being ranged.

Factors identified in this report

Communication: Communicate the risks associated with this work and check that the agreed safety measures are in place. This includes ensuring that no one is standing in the direct line of the anchor cable.

Complacency: Seamanship still applies even in the maintenance shed! A stopper would have reduced the risk of an accident.

M2093

Near miss due to distractions

Initial Report

Three deck crew on a superyacht tender were engaged in taking guests for a swim at sunset off some Caribbean islands.

The average depth was 2-5 metres, and you get a lot of shifting sands. The helmsperson was looking back, talking to guests whilst drifting, with one guest standing on the stern looking into the water.

One crew member noticed the echo sounder at a shallow depth, almost touching and immediately told the helmsperson, who reacted quickly by accelerating away. The guest fell backwards into the water with a near miss to the props! Fortunately, no one was hurt, but it could have ended badly. It is unclear if prop guards were fitted.

CHIRP Comment

In taking immediate action to avoid grounding the vessel, the helmsperson did not assess (forgot?) to warn the guests that the tender would manoeuvre violently. The reporter did not state whether the helm checked that no one was in the water before coming astern, but this is an essential 'must do' every time – even in an emergency.

The helmsperson was distracted because they were talking to guests (a topic raised at the previous SYAB in report M1969). There is a natural tension between needing to concentrate on navigational safety and 'keeping your head out of the boat' and simultaneously being friendly and attentive to passengers and guests who do not appreciate the consequences of distracting the helm from their primary task. Good people skills are required to make the safety case with the passengers who may not always appreciate what you are trying to do.

Factors identified in this report

Safety culture: A proactive safety culture would have empowered the helmsperson to remind the guests that they needed to focus on safety. Is this the case on your vessel?

Distraction: Guests and passengers should be reminded as they embark not to distract the crew; this should be part of the safety culture on board.

Local practices: In general, vessels should go to anchor and turn off their means of propulsion before allowing anyone to enter the water. If this is not possible, then a prop guard should be fitted.

M2111

Grounding and Dismissal

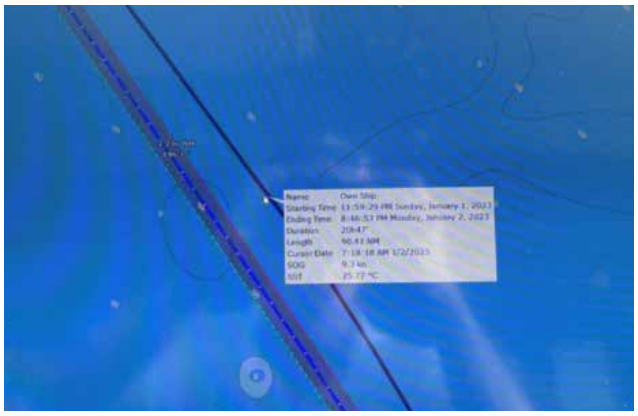
Initial report

Our reporter, a watchkeeper on a yacht, informed CHIRP that their vessel ran aground while navigating in an area of shallow water at over 9 knots. It was approximately 3 hours after sunrise when the grounding occurred.

Screenshots of ECDIS (Electronic Chart Display and Information System) show that the planned track – shown as a dotted line – went over the top of a 1.9m shoal depth even though the vessel's draft was 2.3m. The vessel's course – shown as a solid line – was starboard of the planned track buts still grounded because of a combination of shallow water, speed and squat. This resulted in the vessel dry-docking for several weeks for significant repairs.

The reporter explained that the master created all passage plans, but none were recorded in the vessel's navigation management system and that watchkeepers frequently had to deviate from the planned routes to avoid charted hazards. Our reporter was concerned that the master's proficiency in planning navigationally safe routes was lacking and that they sometimes struggled to interpret RADAR and ECDIS information. The reporter's employment was terminated when they raised these concerns through the company's safety reporting system.

Subsequent correspondence with the reporter revealed that to satisfy the owner or guests' requests to visit certain locations, the vessel often navigated to areas 'by eye,' i.e., visually detecting shallow areas because even large-scale charts lacked sufficient sounding data.



CHIRP Comments

This report raises several issues. Firstly, although certificated, the master's navigational skills appear inadequate. It is vital that company managers validate the skill of masters and other senior officers and do not rely solely on the possession of a certificate as a measurement of competency. Secondly, route plans should always be cross-checked by another watchkeeper because even the best navigators can make mistakes.

The third issue is that guests' wishes to visit a particular destination need to be balanced against the navigational risks of getting there. In Superyacht FEEDBACK edition 01, we strongly encouraged masters to get agreement from the owner or guests at the outset that they will respect the master's professional judgement and the need to say 'no'

when a request compromises the vessel's safety. Navigating 'by eye' is not sound practice and is unlikely to be accepted as such by an accident investigation board!

CHIRP discussed with the relevant hydrographic office (HO) the issues experienced concerning navigating in the area related to the report. Crucially, a compliant ECDIS system must be used, and the charts must be updated to the latest edition and corrections. It was noted that an official ECDIS system with ENC was not used for the navigation of the vessel.

The HO placed great weight on using the sailing directions for the area as a pre-requisite before planning the passage. They contain valuable navigational information, including the nature of the seabed and the likelihood of shifting sandbanks, which in this case were prone to shifting. The vessel's speed must be set according to the under-keel clearance to avoid significant squat. Most fine-lined super yachts will trim by the stern when experiencing squat effect, and damage to the propellers and rudder can be expected if the vessel touches the seabed.

Source data (Zones of confidence)

The source data for the charts used should be considered part of the navigation passage plan (risk assessment). Again, the area under consideration in the report shows sparse-sounding data, with some of the best data shown by occasional lines of miscellaneous soundings. Risk for groundings must be considered high given the lack of data, and routes that have been proven safe in the past should be considered in the passage planning.

Many hydrographic offices (HO) operate a system for navigators and other watchkeepers to report areas where they believe the chart data is insufficient to support safe navigation. Often, they have limited resources and necessarily prioritise known areas of high traffic (e.g., commercial routes), but they are also keen to understand the needs of other users. When CHIRP contacted the appropriate HO about this report, they immediately added it to their list of areas to be reviewed, and readers are encouraged to do likewise.

Most hydrographic offices have good reporting apps or reporting forms to allow data to be sent so that paper and electronic charts can be updated. CHIRP encourages all Super Yacht owners and managers to provide the relevant hydrographic offices with the latest sounding data by using the various reporting apps that are available. This will provide reliable data for other users to consider in their passage plans.

The final issue is that of the reporter being sacked for raising safety concerns. This demonstrates a very poor safety culture within the company and does absolutely nothing to reduce safety risks. CHIRP encourages Flag States to introduce employment protections for those who are sacked for raising valid concerns.

Factors identified in this report

Capability – Those responsible for appointing senior officers (e.g., masters or first mates) should satisfy themselves that the appointees can demonstrate practice competence and evidence that they have maintained their skills since qualification, which in some cases might have taken place years or even decades beforehand. This mitigates against skill-fade and any bad habits picked up along the way.

Alerting 1 – Navigation plans and other critical work should always be cross-checked. This helps with the early detection of errors, prevents 'group-think', and can be a powerful learning/teaching opportunity for everyone involved. No one is too senior to learn from others, and rank does not confer infallibility!

Alerting 2 – Being unafraid to challenge constructively is vital to safety. Sacking someone for raising a safety concern sends a clear signal that your company is not interested in safety.

Alerting 3 – Navigating in areas which need to be adequately sounded requires those that can record accurate data to do so. Sounding information, passed on to the relevant hydrographic office, is very valuable and helpful for all mariners.

Local Practices – Navigating 'by eye' and similar practices may be accepted unofficial practice in some vessels, but it doesn't mean that it's safe – and "But it's what others do" is not a valid defence. If the correct process (e.g., using charted data) isn't adequate, report it to the relevant authority or to CHIRP.

Culture – Dismissing a person from the company's employment for reporting an incident does not demonstrate a just culture. It should be the aim of every organisation to strive for continual improvement and sharing the learning outcomes from any incident can only help in improving safety. Can you share with CHIRP similar incidents that you have experienced?

M2124

Lifting eyebolts failed while launching a Tender

Initial report

Our reporter was part of a team launching the tender from the shell door opening in calm weather conditions. After checking the hoist arrangement and securing the forward and aft lifting arms, the tender was lifted off the chocks. Another crew member went around to lower the outboard side of the tender chocks. Once they were back inboard, the crane arms were extended, but when the tender was halfway out, the bow suddenly dropped to the deck and slid into the water. Meanwhile, the aft end of the tender hit the deckhead, sending ceiling panels flying.

The cause was a sheared eye bolt thread. No additional loading was introduced while lifting the tender until the point of failure. The eyebolt conditions appeared to be in good condition, although there was some uncertainty about when they were replaced last.

CHIRP Comment

Such incidents are not uncommon, and failure under load is often caused by inappropriate eyebolt design or weight-carrying capacity. When lifting, we naturally focus on the type and rating of the lifting strops used, but often the fixed lifting points are overlooked. Lifting eyebolts should have their capacity and test-date stamped on them or on a metal test certificate affixed immediately adjacent to them. Be sure to check your lifting arrangement for the tenders and work boats on your vessel!

Representative image: Shutterstock. Vessel shown was not involved in incidents herein.

This cautionary report reminds us all never to stand or pass under any suspended load, as failure can occur unexpectedly either with inadequate or poorly maintained lifting equipment.

This information will be available in the new building spec for the tender. The tender's crane and lifting equipment should also have been subjected to a proof test, like commercial vessel lifeboats.

When eyebolts are replaced, it is important to replace them with the same specification as the original, and properly fixed back in position. Another contributing factor can be the angle that the eyebolts make with the lifting shackles. If the lifting eyebolt and lifting strops are not in alignment, a shear force is produced which can cause failure of the eyebolt/s.

This cautionary report reminds us all never to stand or pass under any suspended load, as failure can occur unexpectedly either with inadequate or poorly maintained lifting equipment.

Factors identified in this report

Overconfidence – Often there is an expectancy that the eyebolts will 'just work'. Be aware of such single points of failure in a lifting rig and pay particular attention to these areas, such as deformation, pitting or wear and tear.

Capability – During our investigation we heard anecdotes from yacht crews that eyebolts were sometimes changed locally, with a different design e.g. to be less obtrusive. Given the criticality of the eyebolts for safe lifting, maintainers must ensure that the eyebolt specification is safe and meets the original design requirement, which will have an additional safety margin for shock-loading lifting forces. If you're not certain that the eyebolts on your vessel are 'as originally designed' then seek expert advice!

Local Practices – As the eyebolts were replaced, it is essential that the original equipment parts were replaced with the same specification eyebolts. Thoroughness in the procurement process is critical to ensure that the tender can be lifted each time safely. How thoroughly do you procure original spare parts? Does your management have a procurement policy?

M2126

Anchoring Angst

Initial report

The owner was unhappy with the anchorage location and wanted to move. The anchor was weighed, and the deckhand went into the chain locker to stow the cable. They wore ear defenders due to the noise of the cable in the chain locker.

The anchor was weighed to the water line and the vessel was relocated to the new anchorage position where the order was given to drop the anchor again.

The deckhand was still in the chain locker and was either not informed or did not hear that the anchor was about to be let go, and still had their hands on/near the chain as it dropped. Had they become entrapped, the consequences of this near-miss would most likely have been fatal.

CHIRP Comment

Poor communications were a significant factor in this incident, and situational awareness was lacking in the executive team: no crew member should ever be inside the chain locker when a cable is about to be lowered or dropped.

A chain hook or other wooden device must be used to flake out the cable to prevent it from piling up and stowing in the chain locker, and the crew member attending to this task must leave the locker once it is complete.

There appears to be a design issue with the chain locker: either the locker is too small to accommodate the cable pile when the anchor is stowed, or the spurling pipes are not adequately designed to allow the cable to self-stow. Design modifications should be considered to eliminate this unnecessary risk before the next docking.

Crew training should be provided on anchoring procedures and the risks outlined. The wearing of ear defenders is questionable when clear audible communications for anchoring operations are required, and a clear means of communications must be found.

Factors identified in this report

Design – The poor design of the anchor system created an unnecessary risk which required a crew member to manually flake the cable to prevent it from piling up. Redesigning the spurling pipe in the chain locker to allow the cable to self-stow and not pile up is highly recommended.

Communications – Communications failed, which created this potentially severe near miss.

Good operational safety relies on everyone knowing what is going on so that everyone can contribute to a safe operation. Before any anchoring operation, do you hold a toolbox meeting to discuss what will happen?

Situational Awareness – Nobody thought to check if the crew member was clear from the chain locker. The anchor was at the water line, ready to be let go, but nobody challenged whether the crew was clear of the chain locker. Why?

M2127

Inappropriate risk assessment

Initial report

During a passage through a busy straight at night, the vessel started to vibrate heavily. Weather conditions were uncomfortable, with two-meter swells and high winds. The general alarm was sounded and the vessel stopped. The position was checked, with no apparent signs of grounding, as the vessel was in the deepest part of the straits. There was minimal traffic in the area.

When the engines were reengaged, significant vibrations were felt on the port side, indicating an object around the prop. While investigations were carried out in the engine room and the rest of the vessel, the engines could not be used to keep the vessel pointed into the weather, and she began rolling heavily.

The captain asked the deckhand/dive instructor if they could dive under the hull to carry out an external inspection. Despite the conditions, the deckhand- who was the only qualified diver- agreed. Preparations were made and all aft machinery was isolated. The bow thruster was used to keep the vessel head to wind. Lots of lighting gear was used, and a safety line with a quick release was attached to the solo diver who entered the water.

The pitching hull struck the diver several times and they quickly aborted the dive for safety reasons, but it took 10-15 minutes to recover the diver onto the swim platform because the vessel was moving so violently. Once onboard, the vessel continued its passage to harbour using the starboard engine only, where a large tree trunk was found stuck between the port shaft and the vessel's hull.

CHIRP Comment

Many aspects of this report are disturbing. An objective risk assessment would have identified that the sea and weather conditions were out of limits to carry out diving operations safely. The safest option was to head back to port on a single engine, where an inspection could safely be carried out in daylight.

Although the deckhand held a recreational diving instructors' licence, they were not a qualified commercial diver. Commercial diving requires a diving team in attendance so that a diver can be rescued if they get into difficulty. There was no back-up here; this was a clear demonstration of the 'overconfidence effect'.

The 'overconfidence effect': where a person's subjective judgement is greater than the objective accuracy of those judgements.

Finally, the captain should have recognised that the authority gradient between themselves and the deckhand placed unspoken pressure on the deckhand to agree to the task. No crew should feel pressured to carry out a task which is clearly unsafe and dangerous.

Factors identified in this report

Situational awareness (SA) – Intentionally isolating propulsion machinery and making the vessel 'not under command' in a busy strait at night and in poor weather demonstrates poor SA by the captain

Overconfidence – In seeking to employ a recreational diver on a commercial diving task outside of safe weather limits, the captain should have recognised their own overconfidence bias. This was poor judgement.

Pressure – The authority gradient pressurised the deckhand to dive in obviously dangerous conditions.

Teamwork – Did the crew feel empowered to challenge to the decision to undertake the dive, or was "group think" involved?

Capability – The diver was not qualified to undertake this task, nor were the crew capable of mounting an effective rescue operation.

6. Engineering and Design

In this important section we have reports about engines which refused to start, a gangway malfunction, shore contractors at risk of fatigue, a galley fire and problems during sea trials.

The main human factors identified include:

alerting

- alerting someone to a potential problem can be challenging. Be open and communicate effectively
- keeping the bridge informed of machinery problems is vital
- alerting the company to high workloads is an essential first step towards solving fatigue issues

capability

- capability normally improves with experience
- always check the capability of contractors
- ensure everyone knows how to operate emergency controls

teamwork

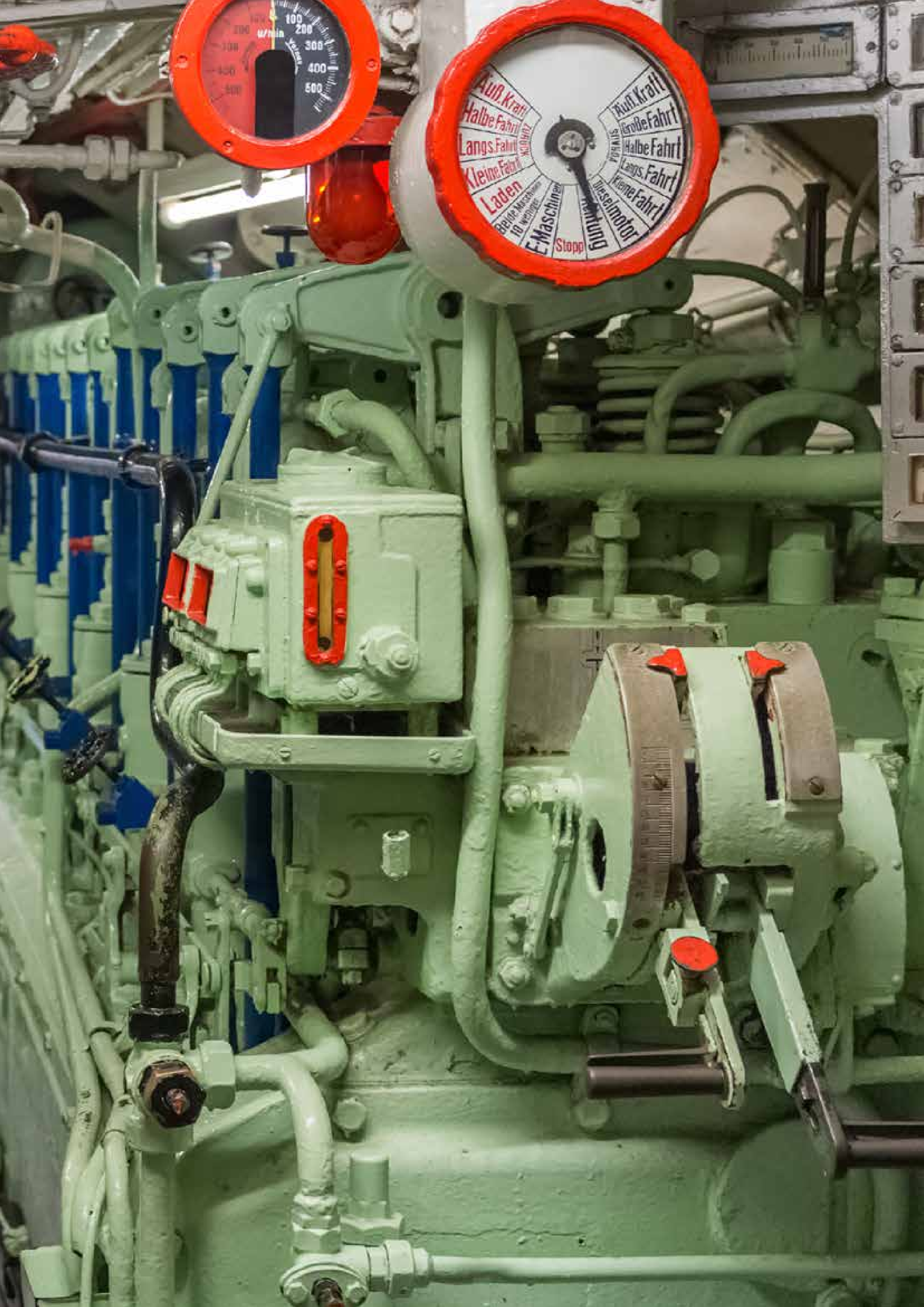
- share problems with your team and encourage challenges
- create a shared mental model of a problem
- heightened teamwork is essential to thoroughly check machinery spaces following repairs or maintenance

local practices

- when commissioning new vessels or equipment, check and question everything
- buddying is a useful system for spotting early signs of fatigue

communications

- restoring standard communication procedures after a lengthy period in dock or off-hire is essential
- communicate design hazards to sister ships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VORAUS
Äuß. Kraft
Große Fahrt
Halbe Fahrt
Langs. Fahrt
Kleine Fahrt

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.

CHIRP Comments

Effective communication and proactive risk management are paramount in maritime operations. Rigging the pilot ladder until clear of port limits demonstrates a commitment to safety, ensuring a secure boarding or disembarking process for pilots.

Timely communication with the master, pilot, port authorities, and other stakeholders is critical, particularly during emergencies. In the event of a main engine problem, swift assessment and appropriate action, such as anchoring for investigation, are necessary to ensure crew and vessel safety.

CHIRP advocates for proactive risk management, empowering staff to take positive safety actions. This includes fostering a culture of safety and open communication. Prudent overreaction is encouraged, emphasising the importance of bold decisions, such as stopping a ship for a thorough investigation.

Providing training and resources is essential for equipping the crew to identify and address potential issues promptly. These practices collectively contribute to the safe and successful execution of maritime operations.

Factors identified in this report

Alerting – Alerting someone to a potential problem can be challenging. The Chief Engineer and the Master must communicate effectively and be open about the risks of any situation, especially concerning the main engine and power supply.

Capability – Capability usually improves with experience and knowledge. Does your ship complement have the necessary experience and skill levels to determine the risks in the event of a problem?

Teamwork – Share the problems with your team and always encourage challenges to ensure the issues have been thoroughly considered. In this case, a problem was not fixed. Do you adopt a shared mental model when confronted with operational or technical problems?

M2137

Personal Injury due to gangway malfunction

Initial report

While walking down the gangway to receive a package being delivered to the vessel, the gangway swung out from underneath them and they fell into the water, hitting their chin and right wrist on the quayside on the way down. They were partially submerged under the dock but kept one hand on it.

Luckily, they were swiftly rescued by a passing dock worker who pulled them out of the water, and although they had a sore head, neck, and arm, they could easily have suffered much more significant injuries.

A post-incident investigation found that the gangway had not been correctly installed and that this was due to poor supervision.

CHIRP Comments

This incident highlights the importance of proper equipment installation and safety certification for superyachts. CHIRP discovered several critical flaws.

Firstly, the design of the securing arrangement was inadequate and had likely been this way since build. The securing bolts were only screwed into the GRP fairing because the backing plate (into which they should have been affixed) was misaligned. This seriously compromised the structural safety of the gangway fixing arrangement.

Secondly, there was no Safe Working Load (SWL) plate next to the fixing point, so the crew could not know the gangway's maximum capacity or working limitations.

The incident raises questions about the quality assurance of the vessel's build, and whether differences between the vessel 'as designed' and 'as built' were properly identified and documented. It is imperative that these are discovered in during the building because they can significantly alter operating limitations. Once the vessel has been handed over to a crew, it is highly likely that such deficiencies will only come to light when the equipment catastrophically fails. Readers may detect similarities with the report in our previous edition about the failure of a lifting eye when hoisting the seaboat.

Collaboration among the shipyard, classification society, and contractors is crucial. Managers for the superyacht need to work closely with all parties involved to ensure proper communication and coordination throughout the construction and installation processes. All equipment should be certified as safe according to the appropriate design specifications before being put into service.

For newly built superyachts, an experienced new-build team should work closely with the shipyard, class, and contractors to identify and rectify potential issues during construction. It is noted that not all owners use a new-build team during the construction and fitting-out phases. If this is the case, management must be responsible for verifying the testing and sign-off for the equipment.

Factors identified in this report

Capability – Always check out the capabilities of contractors employed to carry out work on safety critical or access equipment. Seek assurances that they have the experience to carry out the work and always check the result by someone

experienced to sign off the job as being carried out competently. Consult with the shipyard and class society to check if they have signed off on the installation. This cannot be left to the crew to do!

Local practices – When commissioning new vessels or equipment, question and challenge everything (yes, we know this can be very tiring and time consuming, but it can save your life!) Has the installation been completed according to the specification and testing requirements? A member of the management team or new build team should be responsible for ensuring that the work has been completed and tested.

The fact that there was no SWL plate on the gangway indicates that proper sign-off for the installation was not carried out.

M2154

Dredging a ship's anchor to reach a temporary anchorage

Initial Report

During a daylight approach to a buoyed channel, the main engine of a loaded tanker was stopped to allow more time for congestion at the berth to clear.

On passing the harbour's outer entrance, the main engine was requested to Dead Slow Ahead but failed to start. Several minutes elapsed without explicit information from the engine room as to the nature of the problem, which eventually appeared to be a control issue with fuses.

The engineers, on request by the master and pilot, could not establish local control of the main engine immediately, so it was decided to dredge the starboard anchor to a temporary anchorage close to the safe water area.

A tug was requested at the location to assist in relocating the vessel to a designated anchorage area.

The engineers eventually provided local control of the main engine. Approx. 2 hours later, the tug arrived on location and was made fast forward before commencing weighing anchor. The vessel was towed to the designated anchorage using the local control of the main engine as required. The vessel remained anchored for three days while repairs involved the Class surveyor's attendance.

The reporter's concern was the excessive time to assess the mechanical problem necessitating the immediate need to anchor and the need for more familiarity with the emergency side controls.

CHIRP Comments

The report highlights that accurate assessment skills and familiarity with maritime emergency equipment are crucial in ensuring the safety and effectiveness of maritime operations. The importance of experience in identifying the causes of engineering problems is highlighted, emphasising the need for the engine team to engage in collective thinking to enable effective collaboration with the bridge team for anticipating and planning necessary actions.

However, infrastructure support and assistance availability can vary depending on the vessel's location, adding extra complexity to emergencies.

In terms of training engineers to collectively address engineering problems, the Short Term Strategy (STS) approach is recommended, especially when no predefined rules or procedures are available. Conducting meetings in the Engine control room to discuss the problem, assess risks, and evaluate available time can significantly enhance teamwork, establish a shared mental model, and improve communication between the engine and bridge teams. This collaborative approach helps ensure a coordinated response to challenges.

The report also suggests that engineers should be well-versed in operating side controls specific to their ship and practice using them regularly to maintain familiarity with the systems. Requiring every engineer to operate the side control at least once during their tour of duty (typically every three months) can help keep their skills sharp and ensure they can effectively manage critical equipment.

The report also acknowledges the professionalism displayed by the master and pilot in the specific incident mentioned. Their actions were in line with the severity of the engine problem, reflecting their expertise and ability to handle challenging situations appropriately.

Factors identified in this report

Alerting – Keeping the bridge informed of the problem in the engine room is vital. Information exchange should be concise and clearly transmitted. If you are still trying to figure out the problem, say so. The bridge team can act on this information and make contingency plans. The bridge team should understand that problem-solving can be challenging and consider it during contingency planning.

Teamwork – Create a shared mental model of the problem and encourage challenge. This is a skill set that all operational leaders should be trained to apply during emergency response operations.

Capability – Ask the question on your next ship- do we all know how to operate the engine emergency side controls? When was the last time you practised using them? DPA/ Ship managers should request to see the ESC in operation when circumstances allow.

M2163

Fatigue issues for Contractors who work on ships

Initial Report

A shore-based contractor who often embarks on ships for sea trials contacted CHIRP with concerns that their working routines were leading to them becoming fatigued, and they were anxious that this could result in a safety incident or accident. At sea they regularly worked 12-hour days, sometimes switching between day and night shifts mid-trial. Sea trials typically lasted for 2-3 weeks with no rest days (except when they switched from day to night shift), and fatigue has been a factor.

The reporter asked CHIRP to advise on safe working limits in such circumstances, so that they could have an informed conversation with their employer.

CHIRP Comment

The Maritime Labour Convention defines a seafarer as: "Any person, including a master, who is employed, or

engaged, or works in any capacity on board a ship and whose normal place of work is on a ship."

Under the Convention, seafarers are entitled to a minimum of 77 hours of rest in any 7-day period and at least 10 hours of rest within any 24-hour period. The schedule of working hours must be recorded and posted for all seafarers to see.

If a person's normal workplace is ashore, they are categorised as a 'worker' and their working hours are regulated by the vessel's Flag State or local regulations. These commonly (but not always) limits the working week to an average of 48 hours, with the working day an average of 8 hours, with one day a week as a rest day.

The contractors' employer is responsible for the health, safety and wellbeing of their employees and should set working limits accordingly. However, it is good practice for masters to ask for copies of the contractors' fatigue management plans so that they can satisfy themselves that their working routines have properly taken fatigue into account. Ultimately, masters are responsible for the safety of all persons on board and have the authority to grant additional rest periods to ensure that the hazard of fatigue has been controlled to a level that is "as low as reasonably practicable".

Other practical steps include the buddy-buddy system where pairs of workers monitor each other for signs of fatigue and bring this to their partner's attention. Scheduled rest days at regular intervals and shorter shifts can also help mitigate fatigue-related risks.

CHIRP is pleased to report that in this case, the employer listened to the reporter's concerns and took action to address their fatigue concerns.

Factors identified in these reports

Alerting – Alerting the company to high workloads is an essential first step in solving fatigue issues for shore contractors. Does your company empower you to report fatigue concerns, and are you aware of their reporting procedure?

Culture – Employers of shore contractors should have wellbeing policies and fatigue management plans. Masters are strongly encouraged to ask for sight of these when embarking contractors.

Local practices – The buddy-buddy system is a useful tool to spot the early signs of fatigue. This is most beneficial when crew and workers are empowered to report such concerns, and there are well-understood procedures in place to do so.

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.

M2167

Galley fire

Initial Report

As a chef was leaving the galley area, having closed it down after the meal, they noticed smoke seeping from a door in a smaller, less frequently used section of the galley. Concerned, the chef investigated and found that several pizza boxes had caught fire. These had been stored under heating lamps, which, unknown to anyone, had been inadvertently switched on during the cleaning process. Acting promptly, the chef immediately reported the fire to the bridge using the radio communication system, then turned off the heating lamps and retreated to a safe distance near the doorway.

Responding swiftly, the duty deckhand arrived at the scene without delay. Their initial attempt to suppress the fire using the high fog system was met with challenges due to the fire's growing intensity. Meanwhile, another chef joined the effort, moving the burning pizza boxes away from other items to contain the fire's spread. With the escalating situation, the duty deckhand used a foam extinguisher to effectively put out the flames on the pizza boxes and the area surrounding the heating lamps.

Additional crewmembers quickly arrived and took decisive emergency measures, shutting down all electrical systems and ventilation in the galley to prevent the heat from the fire from spreading. Simultaneously, nearby doors were promptly closed to curtail the spread of smoke to other parts of the ship.

The ship's engineers discussed the manual operation of the ventilation system from the engine control room (ECR), aiming to extract the lingering smoke from the galley area efficiently.

From the moment the fire was reported to the bridge, the containment and control of the fire took approximately six minutes.

CHIRP Comment

CHIRP praises the crew and the management for having a well-trained crew which handled a potentially dangerous situation swiftly. However, there are a couple of points worth highlighting. The bridge was notified by radio and responded to the incident. Anyone discovering a fire should always raise a loud vocal alarm (eg shouting 'Fire, Fire, Fire'), and the fire alarm, if fitted, should always be sounded. Both of these alert everyone in the vicinity that there is a fire so that they can assist in tackling it. The ventilation should be stopped if not done automatically. The use of high-fog as an extinguishing medium was ineffective and, in this case, raises the question of whether it is the right application for a fire that has taken hold.

Heat energy transference from an energy light source can be extremely high, and direct contact is not necessary to start a fire. Materials such as cardboard and plastic coverings will quickly smoulder or melt, even in close contact with normal shipboard lighting sources. A minimum distance warning sign should be positioned near any heat lamp so that flammable material cannot be heated to combustion, or a suitable guard should be placed around the lamp to provide a physical barrier that meets the minimum safe distance if applicable.

Light switches should be properly labelled and positioned in sensible locations close to the storerooms they serve. They should also be clearly labelled. If in doubt, ask the electrical officer to check the function of the switch in question.

Storage of any material should always be considered from the point of view of fire risk and how to control that risk. Eliminating the hazard is the best way to reduce risk. If, after the debrief for this incident, the heating lamps are found to serve no operational function, consideration should be given to isolating the circuit. Hence, they become non-operational and labelled as such.

The incident underscores the importance of crew members' vigilance and highlights effective teamwork and everyone's critical role in ensuring the ship's and its occupants' safety and security. Different crew members' collaborative and swift actions - from the chef's initial discovery to the coordinated response efforts - ultimately contained and extinguished the fire.

The ISM Code Section 8, Emergency Preparedness, mandates regular exercises and drills for emergencies. This concise response highlights its value, and whilst there were areas for improvement, the crew contained and extinguished the fire. It is a valuable lesson for maritime safety and emphasises the importance of continuous training and preparedness.

Factors related to this report

Situational awareness – The crew's response to the emergency was swift and appropriate. There needed to be more awareness of the switch's function (controlling the heat lamp) by the crew. It was very likely that the heat lamps had been switched on before with no consequence. However, this time, pizza boxes were stored near the lamps and combusted due to radiated heat from the lamps.

Communication – This switching arrangement was likely similar in other ships of the same class. Communicating the possible hazards to other ships of the same type by labelling the switch and providing safeguards for preventing contact with flammable materials is required. How does your company communicate design hazards?

Design – Better design at the new building stages, providing built-in safeguards for heat contact and switches in the same room, as the lamps would help prevent accidental use.

7. Deck and Cargo Operations

One notable aspect of this section is the large number of reports which are similar to those we have seen in previous editions of the Annual Digest. Poor cargo arrangements on a log carrier, fire in a container of mis-declared cargo, two reports of incorrect cargo packing and stowage, an injury during mooring operations and an accommodation ladder wire which parted shortly after the pilot disembarked. We can and should be doing better in these areas. We also consider the effects of swell on a berthed bulk carrier, a yacht which was said to have no enclosed spaces, and a ship where container securing equipment badly needed replacing but nothing was done until we intervened.

Finally, we include an Insight article about automated vessel self-cleaning systems which have the potential to reduce the number of enclosed space entries which the crew are required to undertake.

The human factors identified in this section are many and varied, but most common are:

capability
- does shore management lack the resources to audit log-carrying vessels to ensure safe access for the crew?
- cargo mis-declaration happens too often. Ensure your organisation has the skills and processes to deal with problems
- is your management team adequately resourced to manage the carriage of dangerous goods?
- identifying enclosed spaces is not always easy. Do you have the necessary skills and training?

teamwork
- effective teamwork solves problems
- teamwork is needed throughout the supply chain
- encourage a shared mental model for cargo safety
- mooring operations demand collaboration, where everyone looks out for their colleagues

communications
- are design flaws fed back to the naval architects?
- do vessel managers have enough information to assess the risks of carrying dangerous goods?
- how easily can you raise concerns to management?

culture
- how strong is your safety culture?
- underestimating or ignoring hazards are signs of a weak safety culture
- companies should ensure issues can be raised and are actioned

spatial awareness
- understanding everyone's place in the supply chain will lead to safer transport of dangerous goods
- think of the people who will use a gangway and apply more stringent maintenance
- mooring operations demand good spatial awareness

local practices
- clambering outboard to get around deck cargo is never acceptable
- ask demanding questions of shippers and freight forwarders to ensure proper stowage and packing
- a safety audit can ensure hazards are correctly identified

M2101

Unsafe access for the crew on a logger

Initial Report

Our reporter sent photos of a vessel loading timber cargo over alternate deck hatches. The timber extended right across the width of the deck, and the crew had to either walk on the narrow tops of the bulwarks or swing outboard of the log stanchions and hang over the side of the vessel. Both methods are unsafe. The pictures show the height of the "log face."

This is a lethal accident waiting to happen.

CHIRP Comments

We have previously reported on deaths that occurred on vessels loading or unloading timber cargos on deck, as well as our thoughts on the shortcomings of the Timber Deck Cargo Code because it does not mandate safe access to be retained at or below deck level. This has safety implications for routine and emergency access (e.g., fire-fighting and med-evacing a crew from the top of the logs). And although the vessel's design does not technically breach the Code (which presumably is why its Flag and Classification Society signed it off), the crew safety implications were not sufficiently thought through.

Whether climbing outboard in this manner is an unofficial 'local practice' caused by the lack of operational leadership on board or is implied by the company's Safety Management System, it is exceptionally dangerous and must cease. CHIRP is keen to see the Canadian regulations (which mandate that proper safe accessways for the crew and stevedores) be adopted more widely.

CHIRP is keen to see the Canadian regulations (which mandate that proper safe accessways for the crew and stevedores) be adopted more widely

Factors relating to this report

Local Practices – Clambering outboard to get around cargo stored on deck is never acceptable, and every seafarer should challenge this practice wherever it is encountered. Do not put your life at risk in this way.

Culture – The company's safety culture is weak if this is the approved method to traverse the ship.

Capability – Does the shore management lack the resources to properly audit log-carrying vessels to ensure that access is safe for the crew? If your ships carry logs, how do you ensure safe access?

M2150

Imminent mooring failure averted by vigilant crew

Initial Report

Whilst the vessel was alongside at our terminal, long-period low amplitude swell waves (groundswell) caused a large bulk carrier to yaw and roll. This motion caused the edge of the roller fairlead to saw through one of the forward spring lines. Fortunately, this was detected by the crew before it was cut all the way through, and they were able to replace the line before it parted.

CHIRP Comment

The crew's response to the potentially dangerous situation was highly commendable; their alertness and quick action ultimately prevented the parting of mooring lines and potential further complications.

CHIRP wonders whether the charterer's agent properly assessed the berth for suitability in the prevailing weather conditions? Unsafe berth claims go against the charterer, not the owner, so they should have a local agent on site to satisfy themselves that the berth was suitable and to raise concerns with the terminal's operator.

The design of the mounting block on which the pairs of roller fairleads are mounted requires review. The 90-degree edges act as a blade on surging ropes. Naval architects are reminded that the edges of these should be considered during the design phase of a new vessel. By eliminating such hazards at this stage can significantly decrease the chances of lines abrading or parting during the vessel's

lifetime. OCIMF's Mooring Equipment Guidelines (MEG4) (https://www.ocimf.org/publications/books/mooring-equipment-guidelines-meg4) provide further guidance on the design and construction of the mooring system.

Properly installed moorings are not only essential for the safety of the crew but also for maintaining the ship's structural integrity. The risks associated with inadequately installed moorings—including the potential for fatalities, injuries, damage, and increased costs—can be effectively minimised by giving importance to mooring design and construction quality.

Vessel owners remain responsible for maintenance in most cases, and they should ensure that such hidden hazards are removed as soon as possible, or at the latest, during the vessel's next maintenance period.

Factors identified in this report

Communications – Are such design shortcomings fed back to naval architects to ensure that future vessels have these hazards removed?

Fit for purpose – Was the berth fit for purpose in the prevailing weather conditions? Did the charterer's local agent confirm this was the case? Had they raised concerns with the terminal operator?

Teamwork – This report is a good example of effective monitoring by the ship's crew.

Design – Naval architects should avoid designing sharp edges over which lines are likely to be run. Crews: does your vessel have this issue? If so – report it!

M2155

Fire in Container

Initial Report

During a voyage, a 20ft container loaded with cargo installed with lithium-ion batteries caught fire. The cargo had been mis-declared as non-DG (dangerous goods). Despite the difficulty and safety risk when gaining access to an above-deck container in a confined space, the crew punctured the container and flooded the burning cargo with water. This action controlled the fire until the vessel got to the next port, where the container was discharged for an investigation by the terminal authorities.

CHIRP Comments

The crew's actions in containing the fire until the vessel reached port are commended, as is the decision by the port to accept the vessel – many ports turn away vessels if there is a fire of any description on board. However, these fires require specialist equipment and techniques to extinguish, which are only available in port. Both ports and vessel managers need to develop and exercise robust emergency procedures for LIB fires: traditional equipment and training is insufficient.

It is critical that shippers declare LIB and other dangerous goods correctly. Failure to do so potentially puts the lives of crews in danger because they will not have taken this factor into consideration when loading the cargo, nor be prepared to tackle a LIB fire. Regrettably, cargo misdeclaration occurs frequently.

The Cargo Incident Notification System and Network (CINS) has released a comprehensive guidance document (CSAR-101A) which is an invaluable reference document for stakeholders transporting LIBs, and provides guidelines for their safe carriage in containers.

Shippers must strictly comply with all relevant national and international safety, health, and environmental regulations when transporting goods containing LIBs. They must thoroughly evaluate the anticipated transport conditions, including factors like manufacturers and customers involved, and conduct a comprehensive assessment of the risks inherent in the supply chain.

The selection of appropriate containers, and following proper packing procedures, is especially important when shipping LIBs. Use temperature-controlled cargo units or protective stowage locations if the expected temperatures within a container are likely to exceed 40 degrees Celsius during the voyage.

By following the CINS guidelines, stakeholders can significantly reduce the risk of incidents such as thermal runaway, which can be challenging to contain and extinguish. It is essential to mention that a thermal runaway event creates very high temperatures, toxic gases and can be inextinguishable.

Traditional fire-fighting techniques are inadequate for these fires, and there is an urgent need for both training and equipment to evolve to meet the hazards of an LIB fire. In particular, CHIRP is concerned that many ports have not established procedures for tackling such fires on board vessels, nor have yet designated a safe anchorage or berth for such an eventuality.

Shippers must strictly comply with all relevant national and international safety, health, and environmental regulations when transporting goods containing LIBs

Factors identified in this report

Capability – Cargo misdeclaration happens too frequently. Owners, charterers and shippers should ensure their organizations have good document management skills and processes in place. Similarly, vessels and ports should have a plan and the equipment to tackle a LIB fire. How often are they practiced?

Situational Awareness – Understanding everyone's role in the supply chain is the most effective way to transport DG's safely.

M2156 and M2158

Incorrect stowage incidents

Initial Report

CHIRP received two cargo stowage-related reports with similarities in causation.

1. Leakage of jerricans was caused by improper packing. No dunnage plate had been fitted between layers of jerricans, resulting in the excess weight crushing the lower jerrican tiers. The jerricans were filled with the corrosive substance UN 2789 acetic acid. The leakage caused severe damage to the container interior.

2. Four containers loaded onto the vessel were found emitting smoke during the voyage. The cargo was declared as DG, UN1361 Charcoal. The vanning inspection report indicates the charcoal was packed according to IMDG Code. Still, an inspection reveals a significant air space above the charcoal bags allowing more air in the container to react with the charcoal, which self-heated as a consequence.

CHIRP Comment

In the jerry-can example weight distribution was not properly considered during the vanning operation, which led to issues during the voyage. Using good quality plywood sheeting to distribute the weight of the jerry cans is a recommended practice. This helps to evenly distribute the load of each tier, reducing the chances of movement and potential damage. Additionally, using dunnage within the container prevents cargo shifting within the container. It is also good practice to provide a photo of containers once they have been loaded. This is very valuable for crews in the event of an emergency because it significantly enhances their situational awareness without having to open the container.

The second incident also highlights the importance of packing cargoes, and particularly Dangerous Goods cargoes, correctly. The International Maritime Dangerous Goods Code (IMDG Code) and the Code of Safe Practice for Cargo Stowage and Securing (CSS Code) provide useful guidance on the proper handling, packaging, stowage, and securing procedures to minimise the risk of accidents and protect the crew, the vessel, and the environment.

Bagged charcoal should be left to cool for at least 14 days before packaging, protected from moisture, and placed in sift-free and robust bags without tears. The bags should withstand the weight of other bags stacked on them. Temperature control is also crucial, with the cargo not exceeding 5 degrees above the ambient temperature during the loading process.

All parties involved in the transportation process, including the carrier, charterers, and freight forwarders, should recognise and demand that good stowage practices are followed. Better training and enforcement of the regulations can help prevent accidents, protect personnel, and safeguard the environment.

Factors identified in these reports

Local Practices – Charterers should ask demanding questions of shippers and freight forwarders. Is the stowage in accordance with industry and seamanship standards? A photograph is a very powerful medium to confirm that this is the case.

Communications – Do the vessel managers have enough information to determine the risks for the DG's being carried?

Capability – Ensure the management teams have enough resources to manage the carriage of DG cargoes: inadequate resources can lead to dangerous shortcuts. Is your company's DG team adequately resourced and skilled to meet the demands placed on them?

Teamwork – Effective supply chain teamwork was not apparent in either of these incidents.

M2125

No gas detection equipment carried on board

Initial report

Our reporter worked on a commercial yacht under 500gt where allegedly there were no enclosed spaces, even though there were compartments below decks that were not ventilated. No gas detection equipment was carried on board and it was impossible to determine whether bilge spaces, chain lockers, steering flats etc, were safe to enter or work in.

CHIRP Comment

This reporter is to be praised for raising this matter and for showing a high level of safety awareness. Enclosed spaces kill an average of 10 seafarers every year.

The definition of an enclosed space can be found in SOLAS Regulation XI-1/7 as well as The Code of Safe Working Practice (COSWP) chapter 15:

> *A space which is not designed for continuous worker occupancy and has either or both the following characteristics: limited openings for entry and exit and/or inadequate ventilation.*

Enclosed spaces *do* exist on super yachts, and can include areas such as chain lockers, bunker tanks, paint lockers, battery lockers, peak tanks, cofferdams, sail lockers and void spaces. Arguably non-tank spaces are more dangerous as crews are less aware of the risks. Never assume that a space is not an enclosed space- always check!

If access to any of the above spaces is required, then proper entry procedures **must** be followed. These include a risk assessment (RA), a test of the atmosphere using properly calibrated portable atmosphere testing equipment and the completion of a permit to work (PtW). If the testing equipment is not on board, then entry must not be attempted. The testing equipment should be capable of testing and displaying the amounts of oxygen, carbon monoxide, hydrogen sulphide and flammable gases. Vessels which do not have properly approved and calibrated gas measuring equipment and portable gas-freeing fans should obtain them before any enclosed space entry is undertaken, and in any case the compartment should be thoroughly vented for several hours prior to entry.

Although there are some exemptions to the rules for carrying gas measuring equipment, CHIRP's Superyacht Advisory Board were united in their belief that it should always be used, particularly as it is relatively cheap (many models cost less than $500 USD). The crew must also receive training in calibrating and using the equipment. Calibration can usually be carried out on board, although some models can only be calibrated ashore. The importance of proper recording of the maintenance of the equipment is essential and cannot be overstated.

Concerning gas-freeing fans, they should be sourced to ensure that the largest space can be thoroughly vented with enough force ventilation to ensure that no pockets of atmosphere with insufficient O_2, toxic and/or flammable gases remain. When sampling the atmosphere, always make sure that the sampling is representative of the space to be entered- several sample points must be obtained, often at different heights off the deck.

The Advisory Board also recommended that the 2-monthly entry and rescue drills required by SOLAS should not only focus on the physical drill and the rescue but raise awareness during the drill of what constitutes an enclosed space. It is best practice to identify these spaces eg with signage or similar (We recommend "Enclosed space - no entry allowed until all entry RA and PtW requirements are met")

Factors identified in this report

Culture – Underestimating or ignoring hazards are signs of a poor safety culture. In this incident there appears to have been no thought given to ensuring that enclosed spaces on the super yacht can be ventilated and tested for safe entry. The reporter has challenged this culture by raising this report, which is commendable.

Capability – Identifying enclosed spaces is not always easy; are you confident in your ability to do so?

Local practices – Owners are recommended to commission an external safety audit to ensure that hazards are correctly identified and that minimum safety management standards are being applied.

M2162

Severe Near Miss – accommodation ladder wire parts after pilot disembarks

Initial Report

The pilot reported that after disembarkation to the awaiting pilot launch, the accommodation ladder (part of a combination rig) was seen trailing in the sea when the wires for the accommodation ladder parted.

CHIRP Comment

The disembarking pilot could have been seriously injured if they had been on the accommodation ladder just a few minutes later. Why does this continue to happen?

A similar incident M1852 was published in MFB Edition 66 page 3 in which, fortunately, there was no serious injury to the pilot.

Wires need regular maintenance and regular replacement in accordance with SOLAS and company SMS maintenance procedures. The wire's function deployed on gangways is to break out/stow the gangway and position the gangway to a required angle in azimuth or elevation so personnel, including pilots, can gain access to the ship. Given that the position of most gangways is located where sea and spray impact the ladder and can accelerate corrosion, CHIRP advocates that the wires must be replaced more frequently than the current regulations stipulate. Also, lowering the ladder to approximately the same position regularly will place a more significant load and wear on that part of the wire and cause it to fail quicker despite the rest of the wire looking in good condition.

In our Annual Digest (2022-23), we advocate for a replacement period of 12-month intervals due to the high number of wire failures. CHIRP has received several reports where the wire has parted while in use and wants to collate these reports to provide objective evidence that the regulations must change to a 12-monthly frequency for renewal.

CHIRP encourages manufacturers to reconsider gangway design so crew members can easily inspect and maintain the wires.

Reference: Pilot ladder Safety - Do it right the first time

Factors related to this report

Design – You need to be able to see the wire to inspect it. A lot of the wire is hidden, especially at the terminations. Manufacturers must look at the design with a focus on maintenance by the crew. Does your ship have a spare gangway wire on board?

Capability – Improvements in inspections require the crew to be trained in what to look for. Have you ever been given any formal equipment maintenance training? Or have you just picked it up from the other crew members?

Situational Awareness – Think of the vulnerability of the gangway and apply more stringent measures concerning maintenance. Please think of the people who must use the gangway as part of their job, e.g., pilots, and increase safety factors for the moving parts. Consider halving the periods for maintenance and replacements.

Alerting – If you inspect your gangway and find the wire condition in a poor state, will you notify the rest of the fleet?

M2175

Damaged cargo securing equipment

Initial Report

When inspecting the cargo securing equipment, our reporter discovered that a large number of base locks and twist-locks were worn and no longer fit for purpose. They reported this to the master, but no requisition was raised to the company.

Our reporter remained concerned because stevedores from other countries frequently reported issues with automatic twist lock malfunctions during cargo operations, resulting in delays. Moreover, the company had lost many containers overboard only a few years beforehand. Despite these ongoing concerns, the base lock issue remained unresolved. The nautical and safety superintendent was unaware of the twist lock conditions on the ship, and there had been no requisition raised in the planned maintenance system (PMS) program for some time.

Our reporter approached CHIRP for assistance because they were worried that containers could be lost overboard if they were not correctly secured. CHIRP approached the company, which cited a breakdown in communications with the ship and immediately arranged for the replacement parts to be sent to the ship.

CHIRP Comment

According to the World Shipping Council, in 2022 there were 661 containers lost at sea. Although this is a tiny percentage of the 250 million containers transported annually, each represents a hazard to the ship, and a general navigation and environmental pollution risk, quite apart from the financial loss of the contents.

The security of the cargo is a significant safety factor for the ship, crew, and the environment. It requires the highest level of attention to ensure it is carried out correctly. Internal and external safety management audits should identify equipment falling below acceptable standards. Additionally, ship manager visits should focus on these areas of cargo security. They must also adhere to and check the proper maintenance history in a PMS, and establish a realistic reordering stock level for cargo securing equipment.

The reluctance by the ship to report the state of the cargo-securing equipment to their management indicates the company's poor reporting and safety culture. Given that container security issues in the past had been a problem, CHIRP notes that this should have been a high-priority matter. The reporting culture should be addressed promptly. Encouraging employees to speak out about safety concerns is vital and should be encouraged. A crew and other stakeholders that prioritise safety should be considered an asset to any company in the maritime industry. Safety should always be a top priority, and organisations must promote a culture where safety concerns can be raised freely.

The management company, Flag and the P&I Club were all informed of this report with a request that they check on the status of the cargo-securing equipment on this and other ships in the fleet.

Guidance on securing containers, published by the Standard Club, can be found here: 3368203-sc-mg-container-securing-2020-final.pdf (standard-club.com)

CHIRP is happy to report that the company took positive action to address all the issues concerning cargo-securing equipment and has thanked CHIRP for bringing this matter to their attention.

Factors related to this report

Communications – How easily can you raise a concern to management concerning a safety matter? How well do they respond to your concerns?

Teamwork – Encourage a shared mental model for cargo safety and alert each other when issues arise. This is needed on a large ship where checking on cargo securing items cannot be left to one person due to the sheer size of the vessel.

Alerting – Create a positive alerting culture so that risks for all operations are raised and actioned.

Culture – The company should look at how issues are raised with the company and evaluate the current state of its safety culture.

M2138

Personal Injury during mooring operations

Initial report

During mooring operations, and while a 25' tender was simultaneously being secured alongside the superyacht, the yacht's aft spring line unexpectedly came under pressure. The Chief Officer's fingers were caught between the mooring line and the deck cleats, resulting in three broken fingers and nail and skin lacerations. The chief officer was working alone. The incident prompted the company to introduce safety improvements during mooring operations to prevent such accidents in the future.

According to the incident report, the company should consider sourcing smaller diameter custom length mooring lines to secure the line's working end aboard the tender. This change would leave only the spliced loop to be secured aboard the super yacht, eliminating the risk of two bitter ends being secured over each other on the yacht's deck cleat. They should also consider switching to a more flexible line and installing snubbers to absorb stress on the deck cleats. These measures will help reduce the likelihood of accidents and injuries during mooring procedures.

Additionally, the company proposed additional training for all crew members working with lines on deck, highlighting the dangers of working alone during mooring operations.

CHIRP Comments

This is very much a seamanship matter concerning securing the tender and other vessels alongside, and the suggestion proposed is reasonable and seamanlike.

The company should consult the master on how the tender may be released in an emergency. CHIRP also suggests that preventing injuries to crew must be part of the design specification. The sleek-looking arrangement is in keeping with the aesthetics of the motor yacht, but it needs to be safe for the crew operating the moorings.

Factors identified in this report

Situational Awareness – Mooring operations demand good situational awareness and physical coordination, given the risks of lines under tension. Carrying out mooring operations without having the necessary support to keep you advised of changing line tensions is very dangerous. Always have someone supporting you during mooring operations.

Teamwork – Mooring operations demand collaboration where one person monitors the operation for safety, and everyone else looks out for each other. At the Toolbox meeting, emphasise to everyone taking part to challenge if something needs to be corrected or is potentially unsafe.

Pressure – Never rush mooring operations due to pressure, perceived or otherwise.

Insight: 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.

Working in enclosed spaces has long been recognized as a hazardous endeavour in the shipping and offshore industries

8. Bridge, Pilotage and Navigation

This is another section where many of the reports are similar to those in earlier editions of the Annual Digest – a vessel which lost steering approaching a berth, workload distractions leading to a collision, communication difficulties and omissions from the master/pilot exchange all feature. In addition, we learn about unsafe fendering in a ship-to-ship transfer operation.

There are two excellent Insight articles in this section, on mental health and fatigue management respectively, and they should be of interest to everyone in shipping.

The most common human factors we identify are:

communications

- excellent communications between all parties will ensure everyone knows what they have to do
- to maintain navigational safety masters must openly report any defects during the master-pilot exchange
- competency in maritime English will quickly fade if it is not constantly practiced

teamwork

- a shared mental model of an issue resulted in a very satisfactory outcome
- share problems with your team and encourage challenges to ensure a successful resolution

culture

- are you confident your safety culture is robust?
- open reporting creates trust

M2095

Loss of steering control on a bulk carrier approaching a berth

Initial report

The master-pilot exchange was completed with no defects or limitations recorded. A tug was made fast aft on the centre line before arrival at the harbour entrance.

The pilot altered to starboard at the entrance to the harbour in accordance with the passage plan, but no counter helm was applied, and the ship continued to swing to starboard. The pilot gave a positive order of hard to port, and at this point, the helm indication was showing hard to starboard. The bridge team reported to the pilot that the ship had lost control of the steering. There was no audible alarm on the bridge to indicate any defect or loss of control of the steering control system.

The engine was immediately stopped, and the tug was ordered to pull back easily to arrest the ship's headway which was reduced from 4.2kn to 0.4kn.

The master re-established control of the rudder in Non-Follow Up (NFU) mode, and the rudder was bought back to midships. With the ship in a safe position in the harbour, the master and engineers reported that the defect had been rectified. The pilot instructed the master to thoroughly test the steering gear system before proceeding to the berth. When completed, the vessel was berthed safely.

CHIRP Comment

This report is an example of a good safety culture in action. As a result of a comprehensive risk assessment that included contingency planning, the tug was ordered and made fast astern. The master-pilot exchange allowed the pilot to integrate quickly into the bridge team, and they acted as one team during the incident.

Depending on the nature of the breakdown, an audible alarm may not sound, and the rudder indication is the most reliable indicator of a breakdown occurring. This was quickly detected by an alert bridge team, and the pilot could reduce speed by ordering the stern tug to take action. Once the engineering team reported that the problem was fixed, the bridge team carried out confirmatory checks, and the vessel continued safely alongside

Factors identified in this report

Culture – Are you confident that the safety culture on board your vessel is similar to the one demonstrated here?

Communications – Because the communications were so good, even the outstations (engine room, tug, and parts of ship) were aware of what was going on and what they had to do. This is an excellent example to follow.

Teamwork – The pilot, master, bridge team, engineers and tug crew all operated in harmony because they had a shared mental model of the issue and the actions required. The pilot's insistence that the entire steering control system is tested before berthing was correct. The port authority should be commended for adopting this thorough approach to risk mitigation.

M2103

Workload distractions lead to a high-speed collision

Initial Report

As a Crew Transfer Vessel (CTV) was returning to port at high speed, the master became distracted by a lengthy radio conversation and did not notice that the vessel had been pushed off course by the tide. It collided with a wind turbine tower at speed, causing significant damage to the vessel. The weather and visibility were good. As is common for vessels of this length, only the master was on the bridge; nobody else was keeping a lookout during the radio exchange.

CHIRP Comment

Unfortunately, this is not an isolated incident: CHIRP is aware of several incidents where vessels collided with charted objects when the sole person on the bridge became distracted by workload.

Single bridge manning is common, particularly on small to medium-sized vessels by day in good visibility. However, manning requirements must always be informed by rigorous risk assessment. In the case of single bridge manning, extra care should be taken to ensure that the risks of workload, fatigue, distractions and other factors are adequately reduced to as low as reasonably practicable. The routine nature of this type of operation can lead to low mental arousal and risk distraction. This 'risk normalisation' reduces concern and can lead to overconfidence.

CHIRP was unsure if the ECDIS was working and correctly configured and could not determine from the report if any warning was sounded or heard.

Consideration should be given to increasing the number of lookouts during high-speed transit operations. Utilise your crew to highlight perceived hazards in the wind farm zones and use all navigational aids to assess the risks, especially on the chart plotter (alarms for off-track limits/cross-track error and radar guard zones).

Management should consider conducting a thorough risk assessment for vessels under their management using an independent auditor to determine the risks and set appropriate levels of manning for critical stages of a CTV operation.

Factors identified in this report

Situational Awareness – The master did not notice that the CTV had drifted off track. The offshore sector is a

challenging and busy environment. What steps does your company take to ensure that this incident could not happen?

Capability – Is the resource capability adequate to ensure that safe navigational capability is maintained? The wind farm industry is relatively new, and an assessment of the risks associated with maintaining and servicing the wind turbines should be considered for review.

Distractions – Maintaining focus on a repetitive job is challenging. Having a lookout in place changes the dynamic interaction on the bridge, which can lead to a greater focus on hazard awareness.

M2099

Unsafe fendering arrangement for Ship to Ship Operations

Initial Report

Our reporter sent a photo of a storage ship with incorrectly rigged fenders, noting that a failure of any of the fender's securing lines will lead to a failure of the complete fender protection system.

CHIRP Comment

The rope is a single point of failure – if it breaks, the entire fender arrangement is compromised. Good seamanship demands that each fender is individually secured in position since the relative motion of vessels can cause the securing lines to part.

Factors identified in this report

Overconfidence – The operator may be too overconfident in the ability of the fender to provide a secure arrangement for both vessels, given the environmental conditions.

Local practices – This may be a local practice. However, in all ship-to-ship operations, both masters are responsible for ensuring that the mooring is secure throughout the loading/discharge operation. Would you challenge this fendering arrangement? Would you abort the berthing?

Alerting – Would you alert the master of the export ship with the fenders that the securing arrangement is inadequate?

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.

Insight: The Crucial Role of Mental Health in Seafaring Professions

A sea-going career has often been synonymous with adventure, freedom, and the allure of the unknown. However, this romanticized image belies the stark realities faced by those who work in maritime industries. Seafarers operate in an environment fraught with unique challenges, from the isolation of being away from family and friends for extended periods, to the physical demands of the job and the unpredictability of oceanic conditions.

Amidst these challenges, the importance of mental health has emerged as a crucial aspect of seafaring life, influencing not just the well-being of the individuals on board, but also the safety and efficiency of maritime operations.

The psychological toll of seafaring

Seafaring is uniquely characterized by long hours, irregular sleep patterns, and prolonged periods away from home. The isolation and confinement sometimes experienced on board can lead to feelings of loneliness and depression, while the high-stress environment can contribute to anxiety and burnout. The cumulative effect of these factors can take a significant toll on a seafarer's mental health, affecting their ability to perform their duties effectively.

Safety at Sea

The link between mental health and safety in maritime industries is undeniable. A seafarer struggling with mental health issues is more likely to make errors, have slower reaction times, and exhibit impaired decision-making abilities. In an environment where split-second decisions can mean the difference between safety and disaster, the importance of mental well-being cannot be overstated. Furthermore, the close-knit nature of life on board means that the mental health of one individual can have a ripple effect, impacting the morale and performance of the entire crew.

The link between mental health and safety was somewhat quantified by a 2019 study conducted by the ITF Seafarers' Trust and Yale University, which determined that:

- Seafarers with depression had more than twice the likelihood of a work injury,
- Seafarers with anxiety had twice the likelihood of a work injury,
- Seafarers with suicidal ideation had increased likelihood of a work injury but to a lesser degree than those with depression and or anxiety,
- Seafarers with depression had twice the likelihood of an illness at work,
- Seafarers with anxiety had more than twice the likelihood of an illness at work,
- Suicidal ideation was not independently associated with increased likelihood of illness

The Human Element

Recognizing the integral role of the human element in maritime safety, various organizations have emphasized the need for a holistic approach to seafarer well-being. The International Maritime Organization (IMO), for instance, has underscored the importance of addressing the human element in its safety and security frameworks, acknowledging that human factors are a critical component of maritime safety.

Industry Efforts to promote mental health

In response to the growing awareness of the importance of mental health for seafarers, the maritime industry has taken significant strides to address this issue. Shipping companies have begun implementing wellness programs aimed at supporting the mental health of their crews, offering resources such as counseling services, stress management workshops, and peer support networks.

Training programs have also been developed to equip seafarers with the skills and knowledge necessary to manage the unique challenges of their profession, fostering resilience and enhancing their ability to cope with stress.

However, the latest Seafarers Happiness Index (SHI) report for Quarter 2, 2023, reveals a further decline in overall happiness reported by participating seafarers. Happiness levels falling across all categories signals a sustained drop in positivity and the responses from seafarers paint a worrying snapshot of the conditions they are experiencing.

A holistic approach onboard

"Wellness by Learning Seaman" positions itself as a premier global digital platform uniquely dedicated to the wellbeing and mental resilience of maritime professionals. Providing a comprehensive suite of tools and videos, including a support hotline, mental health resources, and interactive socializing wellness programs, it addresses the unique challenges faced by seafarers, such as social isolation and blurred work-life boundaries. Committed to fostering a confidential and supportive environment, the platform ensures access to vital resources and expert guidance, promoting personal growth, self-esteem, and a heightened sense of fulfillment. It embraces a holistic approach to mental health, recognizing the importance of positive psychology and education beyond traditional maritime knowledge.

Acknowledging the critical impact of crew mental health on maritime operations, key industry organizations like the IMO and ITF highlight the need to prioritize mental well-being as essential for the overall safety, efficiency, and sustainability of the shipping industry. Recognizing this, shipping companies and industry stakeholders are increasingly investing in mental health as a strategic imperative. The platform's collaborative efforts with the World Maritime University and trusted partnerships with major maritime organizations further extend its reach and impact in promoting seafarer wellbeing.

For more information, you may visit https://www.learningseaman.com

Conclusion

The open seas may be unpredictable, but the need for a focus on mental health in maritime professions is clear. By prioritizing the well-being of seafarers, the industry not only safeguards the individuals on board but also enhances the safety and efficiency of maritime operations. As we navigate the challenges of the 21st century, the importance of mental health in the seafaring profession has never been more apparent, nor more crucial to the continued success and safety of the maritime industry.

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Insight: Tiredness Can Kill – Take a Break (Fatigue Management for Bridge Watchkeepers)

"Captain Sir, I think we should delay sailing this afternoon. The deck and bridge team are exhausted from our discharge operations over the last 2 days and we may make some fatigue-related safety errors as we return to sea".

You are currently unlikely to hear something like this – but why? Airline pilots will not fly if they have not achieved their mandated rest periods and in many countries the same is true for heavy machinery operators, train drivers and truckers. There is nothing wrong with this; in fact, they should be applauded for having the moral courage to say "no" and the backing of unions and/or employers to act in this way. So why do we have a cultural belief this this is not acceptable for the officers with charge of the ship (or any other safety-related role in the maritime environment)? The primary role of an Officer of the Watch is to keep the ship and her company safe from all dangers of navigation and collision. Their secondary or tertiary duties are just that – and their undertaking should not impinge on that of their primary task: to keep the ship safe.

Not having an Officer of the Watch on the bridge while underway isn't an option so why don't we demand protected rest periods so that, when on watch, our bridge watchkeepers are always alert and safe to operate? STCW 95 states that watchkeepers should have:

- not less than 10 hours of rest in any 24-hour period,
- which may be divided into no more than 2 periods, one of which should be at least 6 hours long,
- the interval between these rest periods should not exceed 14 hours and,
- at least 77 hours total rest in any 7-day rolling period.

Note: this also includes engineering watchkeepers.

But are we really sticking to the letter of the law rather than doing our best to adhere to the spirit of it? Rest means time off - not carrying out secondary duties/admin tasks or attending meetings. It doesn't necessarily mean sleeping, but means not working i.e. doing whatever is necessary to recharge your batteries.

Understanding Fatigue

Fatigue can be defined in many ways. However, it is generally described as a state of feeling tired, weary, or sleepy that results from prolonged mental, physical or emotional exertion, exposure to harsh environments, or loss of sleep. The result of fatigue is a reduction in physical and/or mental capability, impaired performance and diminished alertness which may impair nearly all abilities including strength, speed, reaction time, coordination, decision making or balance.

- Fatigued individuals become more susceptible to errors of attention and memory (e.g. it is not uncommon for fatigued individuals to omit steps in a sequence).
- Chronically fatigued individuals will often select strategies that have a high degree of risk on the basis that they require less effort to execute.
- Fatigue can affect an individual's ability to respond to stimuli, perceive stimuli, interpret or understand stimuli, and it can take longer to react to them once they have been identified.
- Fatigue also affects problem solving which is an integral part of handling new or novel tasks.

All of these examples are relatable to both the bridge and engineering Watchkeeping environments.

For many years, fatigue was discounted as a potential cause of, or contributor to human error as it was believed that fatigue could be prevented by various characteristics such as intelligence, education, training, skills, motivation, physical size/strength or professionalism. This has now been proven to be entirely incorrect. Fatigue is dangerous because it affects everyone regardless of skill, knowledge and training. An attitude of "I managed it when I was 2nd Mate" or "Generation X /Snowflakes can't cope with hard work" is ill-informed, dismissive and potentially dangerous, and has no place in our risk aware, safety conscious organisations.

A UK Maritime & Coastguard Agency study into Bridge Watchkeeping and accidents identified that fatigue was at least a contributing factor in, if not the main cause of, the majority of collisions and groundings. It also stated that because the seafarer is a captive of the work environment, working and living away from home, on a moving vessel that is subject to unpredictable environmental factors (i.e. weather conditions) and with no clear separation between work and recreation, that the most common causes of fatigue known to seafarers are: lack of sleep, poor quality of rest, stress and excessive workload.

The Science

Each individual has a biological clock, and this clock regulates the body's Circadian Rhythm.

Our bodies move through various physical processes and states within a 24-hour period, such as sleeping/ waking, and cyclical changes in body temperature, hormone levels, sensitivity to drugs, etc – this is the Circadian Rhythm. The biological clock is perfectly synchronised to the traditional pattern of daytime wakefulness and night-time sleep and makes a person sleepy or alert on a regular schedule whether they are working or not. In normal conditions, the asleep/ awake cycle follows a 24-hour rhythm, however, the cycle isn't the same for everyone. Although individual rhythms vary, each person's cycle has two distinct peaks and dips. Independent of other sleep-related factors that cause sleepiness, there are two times of low alertness in each 24-hour period. These commonly occur between 3-5am and 3-5pm.

Fatigue may be caused and/or exacerbated by one or a combination of things:

- Lack of sleep – only sleep can maintain or restore your performance level. When you do not get enough sleep, fatigue will set in and your alertness will be impaired.
- Poor quality of sleep – fatigue may be caused by poor quality of sleep. This occurs when you are unable to sleep without interruptions and/or you are unable to fall asleep when your body tells you to. Disturbances while resting such as being woken up unexpectedly (due to whole ship events or emergencies) and then being unable to get back to sleep are commonplace.
- Insufficient rest time between work periods - apart from sleep, rest (taking a break) between work periods can contribute to restoring your performance levels. Insufficient rest periods due to the requirement to attend meetings or work on secondary duties can cause fatigue.
- Stress can be caused by personal problems (family), problems with shipmates, long work hours or anxiety over professional performance, especially in the run up to reporting time. A build-up of stress will cause or increase fatigue.
- Noise or vibration can affect your ability to sleep/rest, and it can affect your level of physical stress, thus causing fatigue.
- Unlike in other (static) working environments, ship motion is considered to be a major contributor to fatigue due to the extra energy (15-20%) expended in maintaining balance while on a moving platform, especially during severe sea conditions. There is a direct correlation between a ship's motion and a person's ability to work before you consider the debilitating effects of motion sickness which affects approximately 35% of people to some degree.
- Food (timing, frequency, quantity as well as nutritional quality) – refined sugars (candy etc) can cause your blood sugar to rise rapidly to a high level. The downside of such short-term energy is that a rapid drop in blood sugar can follow it. Low blood sugar levels can cause weakness, instability and difficulty in concentrating. Eating large meals prior to a sleep period may disrupt your sleep due to digestive activity.
- Ingesting chemicals – alcohol, caffeine and some over-the-counter medications disrupt sleep.

Recognising the Signs of Fatigue (in Yourself and Others)

As already discussed, as well as affecting your capacity for tasks involving physical exertion and strength, fatigue can impair your ability to solve complex problems or make decisions – key requirements of the watchkeeper's role. The table below gives some signs/symptoms of fatigue:

Countering Fatigue

So what can you take away from this article?

On a personal level, the points below may help you to develop good sleep habits (although some of these may not always be possible at sea):

- Develop and follow a pre-sleep routine to promote sleep at bedtime (examples are a warm shower or reading calming material).
- Make the environment conducive to sleep (a cool, dark, quiet environment and a comfortable bed).
- Try to ensure that you will have no interruptions during your extended period of sleep.
- Satisfy any other physiological needs before trying to sleep (don't try to go to sleep if you are hungry or thirsty and always visit the heads before trying to sleep).
- Avoid alcohol and caffeine prior to sleep. Keep in mind that coffee, tea, carbonated drinks, chocolate and some medications (including cold and headache remedies)

Performance Impairment	Signs/Symptoms
Inability to concentrate	• Unable to organize a series of activities • Preoccupied with a single task • Focuses on a trivial problem, neglecting more important ones • Reverts to old but ineffective habits • Less vigilant than usual
Diminished decision-making ability	• Misjudges distance, speed, time, etc. • Fails to appreciate the gravity of the situation • Chooses risky options • Difficulty with simple arithmetic, geometry, etc.
Poor memory	• Fails to remember the sequence of task elements • Difficulty remembering events or procedures • Forgets to complete a task or part of a task
Slow response	• Responds slowly (if at all) to normal, abnormal or emergency situations
Loss of control of bodily movements	• May appear to be drunk • Inability to stay awake • Affected speech e.g. it may be slurred, slowed or garbled • Feeling of heaviness in the arms and legs
Mood change	• Quieter, less talkative than usual • Unusually irritable • Increased intolerance and anti-social behaviour • Depression
Attitude change	• Fails to anticipate danger • Fails to observe and obey warning signs • Seems unaware of own poor performance • Too willing to take risks • Ignores normal checks and procedures • Displays a "don't care" attitude • Weakness in drive or dislike for work

may contain alcohol and/or caffeine. Avoid caffeine at least six hours before bedtime (not easy when you have just had coffee to help you stay alert on watch).
- Avoid blue light from mobile devices during your pre-sleep relaxation routine. Reading a book may be relaxing but it will not reduce fatigue.

From a whole ship perspective, engage with your Captain to understand what can be done to improve things on your ship:
- Consider cabin allocations – if single cabins are not available for all crew, then bridge watchkeepers should have preference of single cabins over non-watchkeepers.
- Look at the assignment of secondary duties and whether certain activity can be deferred until the ship is alongside.
- The 'meeting day' – could meetings be limited to, for example, the 1000-1500 period only and 30mins duration (this routine has been adopted by the US Navy following recent major incidents and has been positively reported).
- Can you ring-fence watchkeepers' rest.
- Could watchkeeping routines be amended?

There is also significant evidence that there are bad practices which should be avoided if possible:
- Waking from sleep less than 30 minutes prior to commencement of safety-critical duties (Sleep Inertia).
- Too-long on watch (watches in excess of 5-7hrs) although this must be balanced with the recommendation to conduct longer night watches which will generate more 'all nights in' which will allow for a longer period of quality sleep.
- Over 30 minutes 'sensor watchkeeping' without a short break.
- Too short off-watch (e.g. 4-on, 4-off).
- Non-24hr schedules (e.g. 10-on, 10-off followed by 6-on, 6-off).

So we now have an idea of how to recognise fatigue in ourselves and others and we understand the effects of tiredness on the safe operation of a ship – so what do we do about it?

Below is a Watchkeeper Fatigue Assessment tool which can be used to give an indication of when the risk posed by fatigue has increased to a level that may require intervention. Even if no positive action is taken, awareness of the issue is likely to engender positive, safety-related thinking and behaviours.

If the Watchkeeper scores 4 Mediums or 1 High Severity, then the Assessment may be presented to the Captain (or Chief Engineer) either for awareness or intervention. While the Watchkeeper may still be required to stand a watch, this will need to be registered in the Wholeship Risk Register. Remember - **the only cure for fatigue is sleep**!

No.	Fatigue Severity Assessment Question	Low Severity	Medium Severity	High Severity
Sleep/Awake Information				
1	Rate the quality of your rest prior to the start of your watch[1].	Good (no interruptions)	Fair (few interruptions)	Poor (many interruptions)
2	How much rest have you had in the 24 hours prior to your watch?	10 or more hrs	6-10 hrs	Less than 6 hrs
3	Approximately how much rest have you had in the last 3 days?	30 hours or more	18-30 hrs	Less than 18 hrs
4	How many hours will it have been since your last rest period once your watch is complete?	Less than 14 hours	14-18 hrs	More than 18 hrs
Rest/Break/Time Off Information				
5	At the start of your working day, how many hours was it since the end of your last watch?	More than 12 hrs	6-12 hrs	Less than 6 hrs
Duty Period Information				
6	How long is your watch?	4 hrs or less	4-6 hrs	More than 6 hrs
7	What time does your watch begin?	Between 0800L - 2000L	Between 2200L - 0600L	
Previous Duty Periods				
8	What watch routine are you in	1-in-4 or more	1-in-3	1-in-2
9	How many consecutive silent hours watches have you had (i.e. between midnight and 8am)?	0-1	2-3	4 or more
Circadian Disruption				
10	If you have crossed any time zones in the last 10 days, have you had adequate time to adjust to your current time zone? (1 day per time zone).	Yes		No
11	Rate your accommodation suitability for sleep in terms of noise level, comfort, temp and lighting2.	Good	Fair	Poor
Results				
	Totals: Indicate in following boxes			

1 Subjective – should be based on usual life at sea in moderate conditions
2 Single berth cabin = good, Austere accom = poor

Conclusion

Fatigue is a key cause/contributing factor in many accidents. We need to be aware of this and limit our exposure when possible, by allowing appropriate rest periods and being aware of fatigue levels across our teams. We should all have the moral courage to say "I need a rest" or point out to others that they do, rather than risk the damage and potential loss of life associated with a collision or grounding.

Reports into major incidents affecting US Navy warships in the last decade (USS Fitzgerald and USS McCain) stated that "... the Command leadership allowed the schedule of events preceding the collision to fatigue the crew" and "... the Command leadership failed to assess the risks of fatigue and implement mitigation measures to ensure adequate crew rest".

Most of us wouldn't consider saying to the Captain that we were a little bit drunk before going on watch, and yet the effects of fatigue are similar to those of alcohol impairment, and most readers will have undertaken a safety critical role while tired!

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10. Appendices

Appendix I: **Acronyms**

AB	Able Bodied Seaman
ACGIH	American Conference of Governmental Industrial Hygienists
ADA	American Disabilities Act
AIS	Automatic identification system
ARPA	Automatic Rader Plotting Aid
BA	Breathing Apparatus
BRM	Bridge Resource Management
BS	British Standards
CBM	Conventional Buoy Mooring
CD	Compact Disc
CHIRP	Confidential Human Factors and Incident Reporting Programme
CNIS	Channel Navigation Information System
COLREGS	The International Regulations for Preventing Collisions at Sea
COG	Course Over the Ground
COT	Cargo Oil Tank
CPA	Closest Point of Approach
DGPS	Differential Global Positioning System
DPA	Designated Person Ashore
ECDIS	Electronic chart data information system
EEBD	Emergency Escape Breathing Device
EMSA	European Maritime Safety Agency
ER	Engine Room
ERM	Engine Room Resource Management
EU	European Union
FRC	Fast Rescue Craft
GISIS	The International Maritime Organization's Global Information System
GPS	Global Positioning System
H_2S	Hydrogen Sulphide
HE	(The) Human Element
HELM	Human Element Leadership and Management
HRO	High Reliability Organisation(s)
HSE	Health, Safety and Environment
IG	Inert Gas
IMO	International Maritime Organization
IMCA	International Marine Contractors Association
IMPA	International Maritime Pilots Association
ISM	International Safety Management Code.
ISGOTT	International Safety Guide for Oil Tankers and Terminals
ISO	International Organization for Standardization
ISWAN	International Seafarers Welfare and Assistance Network
IT	Information Technology
ITF	International Transport Worker's Federation
LOP	Letter of Protest
MAB	CHIRP Maritime Advisory Board
MAIB	Marine Accident Investigation Branch
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
MCA	The United Kingdom Maritime and Coastguard Agency
MEPC	The Marine Environment Protection Committee – IMO
MFB	Maritime FEEDBACK
MGN	Marine Guidance Note
MLC	Maritime Labour Convention
mmwg	millimetres of water gauge
MNM	Merchant Navy Medal
MOU	Memorandum of Understanding
MPX	Master / Pilot Information Exchange
MSC	Maritime Safety Committee (IMO)
MSF	Marine Safety Forum
NB	Nota Bene
NM	Nautical Mile
NOx	Nitrous Oxides
OOW	Officer of the Watch
OS	Ordinary Seaman
PACE	Probe, Alert, Challenge, Emergency
PDF	Portable Document Format
PEC	Pilot Exemption Certificate
PM	Particulate Matter (Nox and Sox)
PM	Planned Maintenance (System)
PPE	Personal Protective Equipment
Ppm	parts per million
PPU	Portable Pilot Unit
PSC	Port State Control
QA	quality Assurance
RHIB	Rigid Hulled Inflatable Boat
RIB	Rigid Inflatable Boat
RN	Royal Navy
RPM	Revolutions per Minute
SCABA	Self-Contained Breathing Apparatus
SI	Statutory Instrument
SMS	Safety Management System
SOG	Speed Over the Ground
SOLAS	International Convention for the Safety of Life at Sea (SOLAS), 1974 as amended
SOx	Oxides of Sulphur
STCW	The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978 as amended
STEL	Short Term Exposure Limit
SWL	Safe Working Load
TCPA	Time to Closest Point of Approach
TDG's	Tactical Decision Groups
TLV	Threshold Limit Value
TSS	Traffic Separation Scheme
TWA	Time Weighted Average
UCL	University College London
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UKMPA	United Kingdom Maritime Pilots Association
US	United States
USCG	United Sates Coast Guard
VHF	Very High Frequency (radio)
VLCC	Very Large Crude oil Carrier
VTS	Vessel Traffic Services

Appendix II: **The Maritime Programme – How it works**

CHIRP receives reports from commercial and recreational seafarers, passengers, port workers and members of the public who have either experienced a near-miss or incident, or who have concerns about safety that they wish to report. Reports can be submitted online (http://www.chirp.co.ul/maritime www.chirp.co.uk/maritime), through our app, or by email (mailto:reports@chirp.co.uk reports@chirp.co.uk).

We do not accept anonymous reports, because they cannot be validated. All validated reports are acknowledged and investigated.

We encourage reporters to use official reporting channels if they feel safe and confident to do so. We are also able to do so on their behalf, and thereafter advocate for them if they wish, while protecting their identity.

Where necessary, we will contact 3rd parties (eg the company concerned, port or flag state etc) to get more information about an incident or to seek resolution of an issue. In such discussions, the reporters identity is never revealed.

To further protect the identity of reporters, we delete identifying information from our database and other electronic systems once we have gathered sufficient information about a report. After a maximum of 63 days, this is also removed from all back-up systems, and the information is irretrievably deleted. At this point, CHIRP cannot make contact with the reporter. The reporter is, however, able to contact CHIRP if they wish to provide more information.

Once our investigations are complete, we will remove all identifying data such as the name of people, ports, places etc and then present it to our Maritime Advisory Board (MAB). This is a body of maritime subject matter experts who apply their expertise and experience to provide industry context and to help identify underlying causal human factors and to make recommendations to prevent incident recurrence.

A selection of reports are considered by the MAB for publication in our FEEDBACK newsletters. These are further scrutinised for identifying information and this is removed prior to publication. The aim is to learn how an incident occurred, not to identify those concerned.

All of our published material is freely available for reproduction and use by other parties so long as they credit CHIRP as original authors.

Director (Maritime)
December 2022

Appendix III: **Our Publications**

Reference Library

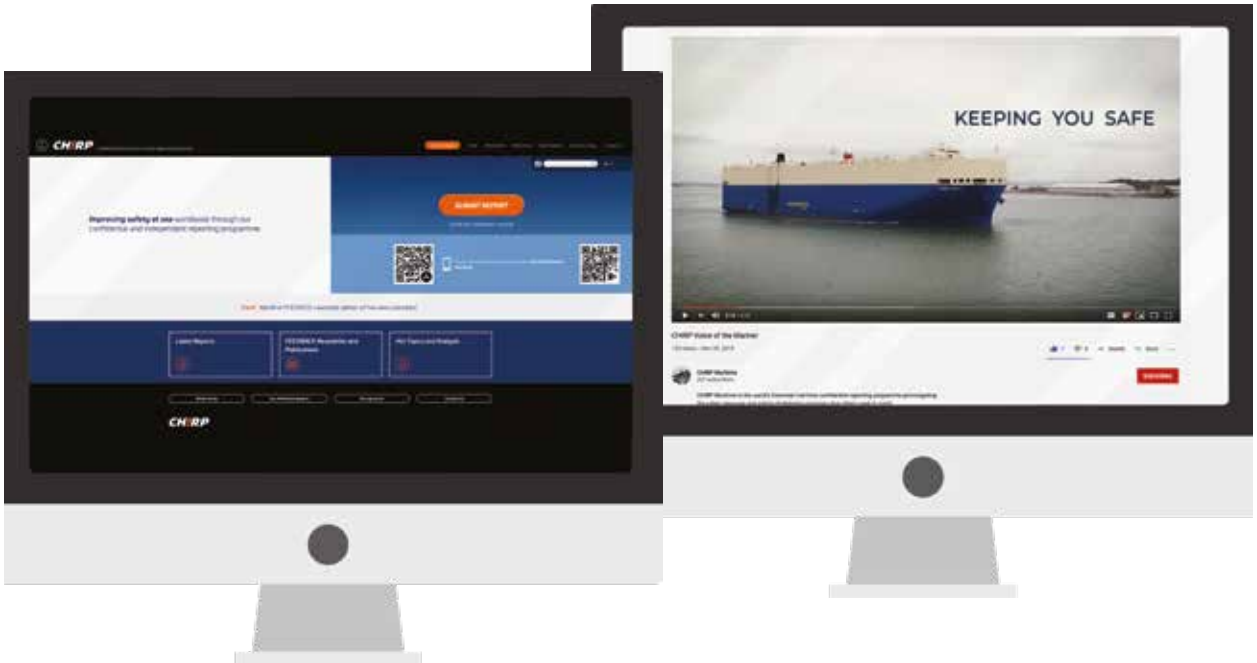
The link below will take you to the reference library page on the CHIRP website. From there you can download an Excel workbook which contains links to a comprehensive list of incident investigations, near miss reports and safety alerts issued by a selection of government maritime agencies and shipping industry sources around the world.

The library has been written in Microsoft Excel on a Windows 10 operating system – the browser used for links was Google Chrome. With these in place, all links should open automatically. It has been found that when viewing the files on an Apple Macintosh, that links to the internet tend to open correctly, but links to a specific PDF file do not open. If this is the case, then copy and paste the link into your browser – the requested file should then open.

We should emphasise that that the official source of information is the actual web sites of the Agencies included in the workbook. The links to these sites may be found at the top of each sheet of the workbook and should be consulted for the most current data.

The library is updated on a regular basis – any suggestions for further enhancements of the library will be very much welcomed.

www.chirp.co.uk/maritime/external-resources/



We've made some changes!

Simplicity saves lives, so we've made it easier to submit reports and read our safety newsletters via our updated website and new app

Find out more...

- Visit our new website!
- Download our app!
- Follow us on social media!

YOU REPORT IT WE HELP SORT IT

CHIRP

Confidential Human Factors Incident Reporting Programme

You can report on the go using our App, **scan the QR codes to download**

www.chirp.co.uk

Apple:

Android:

The CHIRP Charitable Trust, One Kingdom Street,
Paddington Central, London, W2 6BD, United Kingdom

Telephone: +44 (0) 1252 378947

For general correspondence, please use: mail@chirp.co.uk
To submit email reports, please use: reports@chirp.co.uk

Please add as much detail as possible about the incident/safety issue, including date, time and location. Please note that CHIRP does not recommend the use of unencrypted email for reports and the preferred method of reporting should be online at www.chirpmaritime.org.

www.chirpmaritime.org