

# CHIRP MARITIME FEEDBACK

Issue No: 36

03/2014

## EDITORIAL

Welcome to the latest edition of **CHIRP Maritime FEEDBACK**. You may recall our call for ambassadors: Well, we are now delighted to announce the appointment of eight volunteers who, as our newly created ambassadors, will promote both the International **CHIRP Maritime** and the Nautical Institute **MARS** programmes and actively encourage the submission of hazardous incident/near miss reports.

The new ambassadors are based in Brazil, Greece, Ghana, South Africa and the UK and their fields of experience and expertise cover all areas of commercial maritime operations, namely: Oil, bulk, dry cargo, offshore vessels, super yachts and recreational craft. We are sure their contributions will help us to advance the cause of **CHIRP** and **MARS** and we say 'welcome aboard'.

We are still looking for additional ambassadors, especially from companies and seafarers based in countries in the Middle and Far East. Please contact **CHIRP** if you wish to become involved in this thoroughly worthwhile initiative.

In this edition of **CHIRP Maritime FEEDBACK**, we have reports that reveal accident root causes that are predominately linked to an operator's non-compliance with procedures and seafarers who have clearly demonstrated an unwillingness to interfere with, or stop, unsafe working practices or conditions.

65,000 paper copies of **CHIRP Maritime FEEDBACK** are distributed worldwide. We sincerely hope that the lessons learned from the reported accidents, together with the comments provided by the experts on our Maritime Advisory Board, will be used by individuals, safety committees and vessel managers across all sectors of the maritime industry with the goal of sending more seafarers home to their loved ones in one piece!

The extent of the advice we offer is influenced by the number of reports we receive. In my recent article that was published in a maritime newsletter, I spoke of the shame expressed to **CHIRP** by some contributors who felt they had exposed their shipmates to potential injury through being unwilling to report hazardous occurrences and sharing the lessons learned from such events with others. It is perhaps no coincidence that those sectors of the maritime industry that have poor reporting schemes, or fail to promote a good safety culture, are those that experience a higher frequency in the number of incidents, injuries and fatalities.

In the pursuit of our goals for **CHIRP**, we would welcome an increased level of support from the insurance industry, as they have a critical role to play when promoting the safety of seafarers and bring to the table considerable expertise in safety management.

If you enjoy reading this publication, please use the valuable information that has been provided by others and apply this information to your own workplace and practices: it may save your or your fellow seafarer's life!

Remember, it's not just you that is affected by an accident; it is family members, colleagues, witnesses and a whole myriad of people who may be mentally and permanently scarred for life by the experience. So please be encouraged to submit a report; it takes just a few minutes and the results can make an enormous difference to your fellow seafarer's lives.

Thank you and stay safe!

*John Rose Director (Maritime)*

## REPORTS

### CHECK LISTS – JUST WHO IS CHECKING?

**CHIRP** received three reports of hazardous occurrences; each of these would have been avoided if the Bridge team had completed their own onboard checklists in a vigilant manner and not adopted a 'tick box' mentality to their own inspection routines.

1. The ship's bell had been missing for several months but it was only noticed when the ship was preparing for a tanker vetting inspection. Without the ship's bell the vessel is unable to comply with International Regulations for Preventing Collision at Sea 1972 (COLREGS) Rule 33 Sound Signals in Restricted visibility. The hand over between second officers did not include a comprehensive check of all equipment required by the COLREGs, similarly pre sailing checks and internal bridge audits failed to identify the missing equipment. The bell was later found, but only after a crewmember admitted to hiding the bell, with the intention of removing it from the ship.
2. An incoming Captain's inspection found the Navigation shape for a 'vessel not under command' was incorrectly made. The two black balls had a vertical distance apart of 0.40 metres and not at least 1.5 metres as required by the COLREGS Annex 1.6.



[www.chirp.co.uk](http://www.chirp.co.uk)

FREEPOST RSKS-KSCA-SSAT, CHIRP, 26 Hercules Way, Farnborough GU14 6UU (UK only)  
[reports@chirp.co.uk](mailto:reports@chirp.co.uk) Freefone (UK only): 0800 772 3243 or +44 (0) 1252 378947

3. The off course alarm used when steering with the automatic pilot had been switched off for nine months. The fault first occurred after the liquid in the magnetic compass was replaced. The alarm sounded at all times and was routinely cancelled by each OOW; nobody read the instruction manual to find out how to correct the fault. The incoming Master read the manual and soon identified the fault; the sensor light had been fitted 180 degrees out of line.

**CHIRP Comment:** The danger of not identifying the cause of equipment malfunctions and therefore unwilling to fix the problem, or not making good damaged or missing navigation equipment, cannot be understated. Pre-sailing checks of the bridge equipment and the internal bridge safety audits are put in place for very valid reasons. Seafarers should be aware; adopting a 'tick box' approach to safety checks carries a high risk to the safety of all onboard the ship.

It is suggested that a formal system of recorded follow up to any identified issues from pre sailing checks is put in place. In addition, a comprehensive cross check of all bridge equipment should be carried out on a regular basis, by another officer to those carrying out pre sailing checks, to provide for a level of backup to avoid complacency.

## MOORING ROPE RISKS

**Report Text:** I was a passenger on a cruise liner and whilst docking it was good to see that the linesmen were wearing PPE. However, they appeared to be unaware of the danger of standing in a bight.



**Lessons Learned:** Routine operations such as this should be included in safety briefings to operators and in the scope of safety audits.

**CHIRP** contacted the port authority, they in turn shared the information with the stevedoring company. They advised the report was of great help and asked that **CHIRP** continues to share such information

In another report that **CHIRP** received, line handlers were not wearing personal protective equipment.

**Lessons Learned:** Compliance with such a basic safety requirement may be a symptom of a less-than-adequate safety culture.



**CHIRP** also noted a media article on the death of two men whilst assisting with mooring lines. They were thrown overboard from their boat when it became swamped with water and capsized. Although wearing life vests, one man's vest became unfastened as he was thrown into the water.

**CHIRP Comment:** Personnel are routinely confronted with numerous hazards when involved in mooring operations. Wearing appropriate PPE is important and personnel are advised to be cautious and remain vigilant as circumstances may change very rapidly. Do not stand in the bight of a rope and also be aware of the dangers from ropes parting and the potential area that ropes may snap back into.

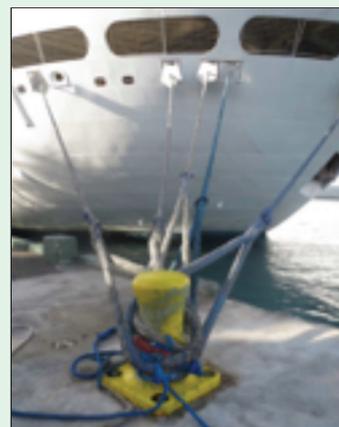
Advice on safe mooring practices can be found at Chapters 12 and 25 of the MCA publication – "Code of Safe Working Practices for Merchant Seamen".

See also the following Marine Accident Investigation Branch (MAIB) reports:

- MAIB Safety Digest 1/2014 Case 5 Mooring Dangers, the need to always keep alert;
- MAIB report 16/2014 Crewman lost overboard from the 'Sea Melody';
- MAIB report 18/2013 Fatal injuries to a crewman whilst securing a tug's tow wire, and
- MAIB report 29/2011 Fatality during mooring operations.

## WHAT IS THE MAXIMUM LOAD A MOORING BOLLARD CAN TAKE?

**Report text:** Whilst at Nassau I took this photo of another vessel where five of the ship's aft mooring lines were secured to one bollard. I do not know the breaking strain of the mooring ropes or that of the bollard, but I suspect that the combined strength of the ropes may have exceeded that of the bollard. However, I do not recall reading of any incident in which a shore bollard has been pulled from the ground.



**CHIRP** recalls an incident on March 5, 2009, MSC Fantasia drifted away from the dock side in Palma de Mallorca Spain. High winds up to 110 km/hour created excessive loads, these caused the shore mooring bollards to be pulled out of the concrete deck and not the ship's mooring lines parting. The bow then drifted away from the dockside causing a passenger gangway to collapse into the water. One passenger and three crew members had to be rescued from the sea. The passenger was taken to hospital with head injuries, three crew members were treated for hypothermia.

**CHIRP** also read the Nautical Institute MARS Report 200539 Failure of Shore Bollards. This incident occurred while on a seldom used berth, with strong gusting winds, the berth only really had one bollard for headlines, one for breast lines and one for springs. The breast line bollard failed and due to a lack of spread of lines the ship drifted off of the dock. The Port Authority had built a mooring dolphin especially for cruise ships and provided assurances

that it was strong enough for all of the headlines – it wasn't and the entire dolphin collapsed, taking all lines with it.

**CHIRP Comment:** It is the terminal operator that is contractually responsible for providing a safe berth. Mooring bollards should have a determined SWL rather than having to rely on assurances that they are strong enough. It is not possible for a Ship's Master to verify the capability of each mooring bollard. The Master should also be aware; the ship's own mooring layout capability will impact the loads on the bollard.

Ship owners should check with their agents to verify the moorings bollards on the assigned berth are adequate for the size of ship nominated to the port. Best practice can be found in the LNG shipping industry where computer programmes are used to verify mooring capabilities of a berth before a ship visit.

---

## PILOT LADDER INCORRECTLY RIGGED

**Report text:** Vessel was loaded, draft 8.5 metres, a short (approx. 5 to 6 rungs no spreader) Pilot ladder was rigged on the Starboard quarter. It was secured to the top rail with a side gate access for the deck. As I stepped on to the ladder it began to slip downwards and I quickly scrambled on board. I then checked the securing method, the AB had taken 3 turns around the top hand rail and secured this with a Half hitch. So as my weight came on the ladder the round turns just rolled out until the ladder came up on the half hitch. On arrival on the Bridge I explained what had occurred to the Captain and the OOW with a diagram. The Captain instigated a near miss report in the company's system and planned to have a tool box talk with the crew. I explained the correct securing is to the deck via Pad eyes and not to the rail. On arrival back at the Pilot Station, I completed a defect report which was sent to the MCA and the local harbour master.

**CHIRP Comment:** In UK ports, before any pilot transfer is undertaken, Masters are required to make a declaration by radio that their pilot ladder meets the requirements set out in SOLAS. Pilots advise the MCA when they encounter sub-standard rigging of pilot ladders and this triggers a Port State inspection. In this case, the vessel was later inspected by Port State Control at Boulogne sur Mer and with no deficiencies found.

**CHIRP** contacted the ship managers and received a very prompt response. The managers had received a report from the ship, the vessel is equipped with a fully compliant pilot ladder with agreement made for the pilot to board on the port side but this requirement was changed and the ladder was then hastily rigged on the starboard side without appropriate oversight by an officer. The managers had advised the Master, he must make a full appraisal of each situation and take appropriate action prior to embarking a pilot and to always use a certified pilot ladder.

The procedure for the rigging of the ladder was reviewed by the company's MAROPS department, they then adjusted their SMS procedure and included detailed

reference to the IMO/IMPA recommendations. Copies of all relevant documents were shared with **CHIRP**.

This report is a good example of a positive response to a hazardous occurrence. Whilst the Captain is on the bridge, the officers are responsible for the ladder to be rigged correctly. The amendment to SOLAS 1974 adopted in 2010 states 'The rigging of the pilot transfer arrangements and the embarkation of a pilot shall be supervised by a responsible officer having means of communication with the navigation bridge and who shall also arrange for the escort of the pilot by a safe route to and from the navigation bridge. Personnel engaged in rigging and operating any mechanical equipment shall be instructed in the safe procedures to be adopted and the equipment shall be tested prior to use.'

**CHIRP** suggests a similar approach should also be adopted on fishing vessels when making arrangements to allow personnel to board at sea.

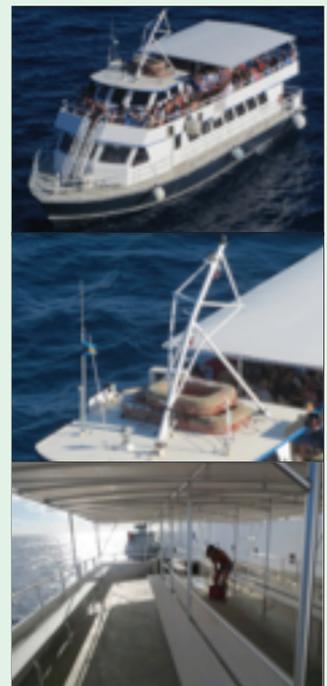
---

## CRUISE LINER BOAT TENDER, RISK ASSESSMENT

**Report text:** My family and I were passengers on a five day cruise from Miami. A safety muster was held before we left Miami. One port of call is used exclusively by cruise liners. "Our liner" arrived and drifted less than one mile offshore, maintaining position with its thrusters. Passengers were ferried ashore on several tenders. Going ashore, I was on one of these tenders, "Tender X". I estimate that she was approximately 25 metres length. Passengers were carried in the main cabin (which had a glass bottom) and also on the upper deck. I was in the main cabin.

No safety announcement was made but I noted life-jackets stowed on shelves and in two piles at the after end. On the return journey in the afternoon, I was on the same tender, but this time on the upper deck. Again there was no safety announcement. I noted that, whereas there were life-jackets in the main cabin, there were none on the upper deck. For passengers on the upper deck, they would have to rely on life-jackets being passed up from the main cabin. As there were only two doors to the main cabin, one forward and one aft, it seemed to me unlikely that this would

happen if the vessel were to founder. There were two rafts on top of the wheelhouse but these would probably not have floated free as they were carried between the legs of a tripod mast and they appeared to be tied loosely to the mast. I estimate that "Tender X", had over 100 passengers



on the upper deck. I had heard that the total number of passengers on each tender was 250.

The journey to and from “*Our liner*” to the small harbour was about one mile each way in a slight sea and was without incident.

On re-boarding “*Our liner*”, I went to the upper deck and watched some of the ferrying operations. I noted that two of the other tenders carried lifejackets on the upper deck and stowed under the benches.

I subsequently went to the Guest Services desk and happened to meet the Guest Services Director. She listened attentively to my concerns. I commented that I was enjoying the cruise and was impressed by the standards on board. However I would have expected the tenders to have been inspected by “*the liner company*”, but the obvious absence of lifejackets on the upper deck of “*Tender X*” made me wonder whether the tender had been inspected.

On 27th December, the Guest Services Director invited me to a meeting with the Staff Captain and the Safety Officer. I had recorded my concerns, as above, in a hand-written note. I advised them of my background in shipping. Again my concerns were listened to attentively and courteously. I also added that from my subsequent perusal of a number of photographs I had taken on board “*Tender X*”, it was not clear that there were 250 lifejackets in the main cabin; however I had not counted these and so I was not sure of this. I was advised that their next liner was due to call at the location on 30th December and the matter would be followed up. I suggested that the DPA should be advised of the matter. I advised that I would also report the matter to

**CHIRP.**

#### **Lessons Learned:**

- 1) The specific issue of the absence of lifejackets on the upper deck of “*Tender X*”: I do not believe that there would have been a realistic prospect of distributing the lifejackets (even if there were sufficient on board) if the tender had foundered. Also, if the life rafts were supposed to float free, they would not have done so. A risk assessment would have identified these issues.
- 2) The more general issue was whether this cruise liner company has a robust procedure for inspecting tenders and other craft it uses.
- 3) I was pleased that on board the matter was reported to the Staff Captain and Safety Officer. However, as I have heard nothing further, I do not know whether such reports from passengers are followed up at company level

**CHIRP** contacted the cruise liner company and was advised the company has made enhancements to the tender’s safety briefing and the raft secured on the top deck was now correctly stowed. Whilst the life jackets were found to be in compliance with the safety certificate, **CHIRP** commented that if a full risk assessment was undertaken, it would reveal there are no readily accessible lifejackets for those people on the top deck, they will be reliant on people on the deck below

passing lifejackets to them. In the event of an emergency, doing this with frightened and untrained passengers may not achieve the desired outcome within the short period of time available to them. It was suggested the placement of the lifejackets on the tender should follow that employed by other tenders at the same location where lifejackets are clearly visible on their top decks.

**CHIRP Comment:** A shore tender is not part of the ship’s equipment and therefore it is the responsibility of the cruise liner company to ensure, through the contract, that appropriate safety standards are in place. Reliance on local regulations is insufficient and visual inspection of the craft should be undertaken prior to use.

**CHIRP** believes the issue should be broadened to include shore leave launches on all ships and the following carried out or considered:

- 1) Launches should be inspected to ensure they have the appropriate lifesaving equipment on board.
- 2) Shipping companies should encourage a feedback system on the quality of the service provided, with a comment on the standard of LSA equipment available on the launch.
- 3) Ship managers may wish to consider whether the ship’s SMS covers all routine activities, such as the launch services used to transfer personnel to and from the ship.
- 4) Ship managers should ask themselves whether they can demonstrate that they have met their legal responsibility to exercise a ‘duty of care’ when employing launches to transfer crew and officials to and from the ship.

In vessels on irregular calls such as on tramping trades this level of scrutiny is recognised as being more difficult. Management companies should still support Masters who, after inspecting launches offered to them as liberty boats, decide against using them. The difficulties in ports where cruise liners do not call may include suitability of the craft for boarding – tugs and fishing boats for example are rarely well designed for boarding and may lack sufficient LSA for passengers as well. Pilot boats, by virtue of their intended purpose should be better but availability and price of the service can often discourage operators in arranging the facility.

---

## **MAINTENANCE OF RESCUE BOAT AND LAUNCHING EQUIPMENT**

**CHIRP** has received several reports concerning the launching of rescue boats and the use of the lowering equipment. We highlight the experiences that have been reported.

- a) During the recovery of a rescue boat the crane came to a rapid stop. The stopping of the crane in such a manner can cause equipment damage and even loss of life in case of heavy weather. On inspection, it was noted the arrangement of the chain connected to the weight on the limit switch had been modified by the crew. Instead of being connected from the top of the weight, the chain was passing through the same hole as the hoist wire

and then connected on the bottom of the weight causing the diameter of the hole to be reduced. Additionally, small amounts of grease had hardened and accumulated close to the limit switch. Both faults caused the weight to lift and activate the limit switch.

- b) Whilst lowering the rescue boat to the sea surface, it was observed that connection wires did not have sufficient length to operate the handles on the rescue boat crane, making it impossible to operate the crane safely from the rescue boat.
- c) A rescue boat failed to launch during a drill when using emergency hydraulic accumulators. After several attempts the operators found that the accumulators' pressure was zero and on inspection they found the changeover hydraulic valves were rusty and non-operational. In the case of a real emergency with a power blackout, it was impossible to lower the rescue boat down to sea water level. Whilst lowering the rescue boat to the sea surface, it was observed that the remote operational handles on the rescue boat crane did not have enough length in the connection wires. There is no possibility to operate the crane properly from the rescue boat. It was noted there were no procedures for lowering the rescue boat without power.

#### **Lessons Learned:**

- Crew must not modify the design of life saving appliances without first consulting the manufacturer, Flag State or Classification Society if delegated to carry out statutory oversight.
- The inspection and maintenance of the rescue boat and crane should be included in the ship's Planned Maintenance System (PMS).

**CHIRP Comment:** Rescue boat drills are important as they can highlight problems during the launching and recovery of the boats. All lifesaving and rescue equipment should also be included in the Planned Maintenance System with changes to equipment correctly recorded together with any communications with Flag State and/or Classification Society on the notification. Wires and their inspection should be included in the wire ropes register. Ensure there are written procedures for lowering the rescue boat without power.

No mention has been made in the reports of the fall connections but these may be either on-load or off-load type hooks. Safeguards against premature release should be used, (often pins in the hooks) but Fall Preventer Device (FPD) sling could be rigged until just above the water (see photo).

Off-load types with a spring-loaded pre-cocking facility should not be cocked until just above the water as irregularities in lowering accelerations – bounces, sudden descents and snagging of grablines are examples – can cause these to release.

---

## **LACK OF MAINTENANCE OF SAFETY EQUIPMENT**

**CHIRP** has received several reports of hazardous occurrences that related to the lack maintenance of Fire Fighting Equipment (FFE) and retention onboard of out of date pyrotechnics, as follows:

- a) During the preparation for a vetting inspection, it was observed that one of the international ship shore connections was incomplete, with eight washers and a rubber gasket missing. Whilst the vessel had two additional complete sets of international shore connections, this item was fixed to a wooden plate and at all times secured near the gangway. This construction had been made several years previously and had remained in place without inspection.
- b) Two separate reports provided information on the inspection of FFE spares: These revealed that the number of spare extinguisher refills and gas cartridges were insufficient for the number of fire extinguishers carried on board. Instructions for recharging the extinguishers were not posted. In one case the validity of the liquid foam concentrate had expired by seven months. Corrective action included the submission of requisition orders to replenish stock, conduct crew training and the posting of manufacturer's instructions in the safety locker.
- c) Two reports noted that expired man overboard (MOB) lights were stowed in the Bosun's store inside the accommodation. In the case of self-activation of these MOB lights, there is a serious risk of fire and of smoke being released, which can lead to inhalation problems, personal injuries and health hazards. In both of these cases they were removed and placed in the hazardous garbage bin with a special request to the local ship's agent to dispose of the hazardous waste.

**CHIRP Comment:** The importance of maintaining safety equipment cannot be under stated and perhaps training establishments should place greater emphasis on this important role for ship's staff. Masters and super-intendents should verify appropriate competence of the safety officer and include training of the crew. The inspection of this equipment should be included in the Planned Maintenance System, with a record of the minimum number of spares for refills and the date of expiry of the foam compound. All expired equipment must not be kept on board, with arrangements put in place for proper disposal at the next convenient port.

---

## **MAINTENANCE AND ENGINEERING**

**CHIRP** has received reports of hazardous occurrences that related to omissions in the maintenance of equipment or failure of equipment.

- a) The adjustable bolt on the brake system of the Starboard mooring winch was tightly secured in the wrong position. When checking all other bolts, three were found to be in same incorrect position. The error meant the operation of this winch was very difficult. Whilst there had been no incident, there was a risk of serious Injury to crew during mooring operations.

**Corrective action:** paint and rust was removed from the bolts and these were adjusted to the correct position.

The Planned Maintenance System should now include the checking of the position of the bolts at least two times per year and a check of the remaining (permissible) thickness of the friction material on the brake band.



- b) During the inspection of the ballast pump room compartment and main engine room compartment, where each space is protected with CO<sub>2</sub> smothering, it was noted the warning sign – “In Case of CO<sub>2</sub> Alarm proceed immediately to escape this compartment” was absent. Lessons Learned: adequate warning signs to be posted near to the CO<sub>2</sub> Alarm Horn and on all of the doors to these compartments.
- c) During routine inspection of the engine room, the suction valve on the exhaust gas boiler circulation pump was found to have a large leakage. Any contact with the high temperature water would cause serious injury to crew members in the vicinity. The valve was replaced with a spare. The leakage should have been recorded in the Engine Room log book.
- d) A ballast water tank vent had a broken steel shaft on the vent float. The shaft had broken when the float was clogged and became stuck inside the vent cowling.



The device is “an automatic closing device” as required by the International Load Line Convention Reg 20 (3). When it is dry it remains open; in the event of the deck flooding to the height of the closing device, the float rises up the spindle and prevents water entering the ballast/fuel tank during heavy weather. The cargo, fuel and ballast tank vent systems should be included in the Planned Maintenance System; the date and frequency of any inspections, with any changes recorded and retained on file.

**CHIRP Comment:** Whilst **CHIRP** makes no comment on the efficacy of the corrective actions proposed in the above cases, the reports show the value of a good inspection programme supervised by senior deck and engineer officers and shows the importance of routine inspections of equipment in all working and service areas.

**CHIRP** would like to see more reports on hazardous occurrences relating to machinery. Engineers and maintenance staff are encouraged to submit more reports; any safety lessons learned can be shared for the benefit of other seafarers.

## DRAGGING ANCHOR

**Report text:** Whilst at anchor with 5 shackles in the water, it was observed that the anchor was dragging. NW wind 30 knots, wave height 2 metres, depth of water 14 metres, ground was mud based material.

The consequence if no timely had been taken could be,

- collision with another vessel in the vicinity
- impact the safe navigation of another vessel in the river, narrow channel or fairway
- catch an underwater cable or pipeline and damage.

### Corrective action:

**Main Engine was already on ‘Standby’ with 5 minutes’ notice. Immediately heave up the anchor and dropped again at nearby position with 7 shackles in water. Carefully checked the anchor position and continued to monitor the anchor position.**

**Lessons Learned:** Before anchoring, carefully check anchorage depths, bottom type, vessels at anchor in vicinity, current, wind speed and direction. Often with this type of vessel, dredging at anchor is a risk if the wind speed is more 30–35 knots. Before anchoring this type of vessel, the anchorage position should be near the edge of the anchorage and clear of any vessel on the predicted way of the driftage.

We then tried an exercise with the bridge team and the predicted flow scenario whilst dredging the anchor and eventually fouling a pipeline. We were unable to find in our manuals any information. We did find a few words in “The Mariner’s Handbook” but believe to avoid any delay in a similar case we need a Marine Information Notice with detailed guidance.

The reporter also highlighted as useful reference material in the Nautical Institute’s MARS Report Number 201045 and Australian Transport Safety Bureau Report no. 260-MO-2008-012. *The report relates to Submarine gas pipeline damaged by an anchor. “The Mariner’s Handbook notes that if it is suspected that a ship has fouled a gas pipeline with its gear or anchors, excessive weight should not be placed on the gear as it could damage the pipeline and the ship ‘could face an immediate hazard by loss of buoyancy due to gas aerated water or fire/explosion’.* Given the high risk and because many pipelines were laid before accurate GPS receivers became commonplace, it would be prudent to be cautious rather than completely rely on the accuracy of their charted locations. In essence, the only appropriate course of action if a ship has, or is suspected to have, snagged its anchor on a gas pipeline is to avoid placing weight on the anchor cable and to slip the cable as soon as possible. Had this been done in this case, the gas pipeline probably would not have ruptured.”

**CHIRP Comment:** Seaways June 2014 Article “Safe Anchorages – A Mariner’s Perspective” provides commentary on the need for consideration of the depth of water, the holding ground, nearby obstructions and to make best use of communications and weather forecasting services.

The importance of keeping a close lookout and constantly monitoring the position of the vessel is emphasised. The use of appropriate position lines on significant land based features to provide additional assistance in monitoring the position is recommended.

Modern Radar and Electronic chart displays will often have features to create guard rings which can also provide for additional position monitoring.

Also it is important to remind Bridge teams of the danger created by removing too many layers on ECDIS charts and thereby losing information on underwater obstructions. Refer to The Nautical Institute "Navigator" magazine Issue number 5 for guidance.

## NOT A LEG TO STAND ON

**Report text:** I was hoping to visit a friend whose yacht was ashore in a boat yard. He was not there so I decided to go on board to leave him a note. The deck of the yacht was about 3 metres above the ground. Access was via a short extension ladder, approximately 2.5 metres long, lashed to the boarding ladder fitted to the transom. When I was near the top of the extension ladder, the locking mechanism failed, the ladder retracted, the lashing failed, and the ladder fell away.

Fortunately at the time I was holding onto the transom ladder with both hands. I was left dangling without being sure how high off the ground and without being able to see whether the ladder was on the ground directly underneath me. There was no one around to assist so I had no choice but to drop to the ground. Fortunately the ladder had fallen clear and I came to no harm. I realised however that had I fallen onto the ladder on the ground, I could have broken an ankle.



### Lessons Learned:

The failure of the locking mechanism on the ladder was not obvious. However, I should have paid more attention to the security of the lashing. In general, slips and falls represent a significant proportion of accidents on vessels. I nearly added to the statistics!

**CHIRP Comment:** The Health & Safety at Work Act Section 4 requires any duty holder, such as a boat yard owner to exercise a 'duty of care' towards anyone on their premises. That duty is, so far as is reasonably practicable, to ensure the health, safety and welfare of anyone on their premises. It is also instructive to view the UK Health & Safety Executive guidance on the safe use of ladders, which can be viewed at: <http://www.hse.gov.uk/work-at-height/using-ladders-safely.htm>

Boat yards used by owners of recreational craft should be aware of their exposure to this risk and their responsibility in the eyes of the law. Owners of such craft have a basic responsibility not to use equipment when they are unsure of its condition and if concerned they should report their concerns to the shipyard.

Reports under review by the **CHIRP** Maritime Advisory Board for consideration and inclusion in the next edition of Maritime FEEDBACK include:

- Rest hours and Fatigue;
- Passenger Ship safety;
- Dynamic Positioning operations;
- Incident between vessels at anchor;
- Non-compliance with the Collision Regulations;
- Battery terminal melt down;
- Passage plan at the harbour entrance;
- Wind Farm high speed craft, and
- Impact on craft as a result of ship's wake

## CORRESPONDENCE

**CHIRP** welcomes correspondence about the reports we publish. We reserve the right to summarise letters received. We apply the same rules as for reports, i.e. although you must provide your name, we do not disclose it.

In **CHIRP 35** we reported on the lack of progress with the improvement in the standard of Marine Operating and Maintenance Manuals after 10 years. We received this response from a doctorate student.

There are a number of contributing factors towards a seafarer's reliance upon procedures in operating and maintenance manuals: failure of training and certification to keep pace with the rate of change of technology; rapid movement of Officers through ranks; reduced staffing levels; and the large breadth of technologies that seafarers (particularly engineers) are now expected to be fairly expert in, is another growing problem. These affect stress, fatigue and reduced retention as well as error. Such factors contribute towards a knowledge gap, the absence of a solution to such factors will ensure that procedures remain critical to safety throughout seafarers' careers.

Industry reliance upon procedures emphasizes the need to properly understand the way in which seafarers utilise operating and maintenance manuals. It has long been established through academic research that operating and maintenance procedures need to serve three primary functions: selection, inference and switching (from instruction to task). These basic functions are underpinned by complex processes which either promote or mitigate human error. Operating and maintenance manuals are often prepared by non-seafarers working for manufacturers, they may perhaps have an in-depth knowledge of their own equipment but have little understanding of technical communication, task analysis and level of seafarers' prior knowledge [STCW]. This leads to a failure of both user navigation and comprehension of the procedure. There is no immediate communicative feedback to the writer, so procedures are always a negotiated meaning and don't necessarily translate to what the writer thinks is

being communicated. Alternatively, there are manuals produced by specialist technical authors with little system knowledge other than that passed to them by the manufacturer (often in a foreign language). These manuals tend to be very aesthetically pleasing with a high degree of graphic design but of poor technical content.

My current Doctoral research was triggered by the earlier CHIRP report, “Marine Operating and Maintenance Manuals – Are They Good enough?” Commencing research in 2010, it became clear quite quickly that although standards and guidance exist, none address the critical questions of supporting systematic thinking (filling the knowledge gap) and the mitigation of human error. The answers lie within an eclectic body of research spanning risk analysis, technical communication, philosophical theories of semiotics, cognitive loading, constructivism and many other such subject matters considered outliers within the maritime professions. In early 2013, a pilot study was conducted using two groups of seafarers to validate two rule-based error-provoking markers identified through literature review. These results proved promising and with the main study scheduled later this year, it is hoped that 2015 will add some clarity to the issue.

Standards of operating and maintenance manual content is one issue, regulatory failure is another! The IMO Maritime Safety Committee circular MSC.1/Circ.1253 “Shipboard Technical operating and Maintenance Manuals” states that the enforcement of accurate and up to date operating and maintenance manuals could be achieved through the mechanisms of the ISM Code. This is a wholly reactive measure and without a clear regulatory foundation, burdening shipping companies with such a responsibility is an unfair and ineffective strategy of self-regulation.

There are currently very serious issues of control associated with regulators failing to ensure that operating and maintenance manuals are fit for purpose when issuing machinery certification. The 2012 NOMAD project commissioned by 14 EU member states examined the noise-related content of instructions supplied with machinery offered for purchase in the European Economic Area (EEA). The project reviewed 1,500 sets of instructions within 40 machinery groups from 800 manufacturers. The information in these instructions was analysed to determine compliance with the European Machinery Directive, and assess the quality of information. The report concluded that the general state of compliance of machinery instructions was found to be very poor: 80% of instructions did not meet legal requirements. In fact, the report further stated that 8% of the documents surveyed were not even in an official European Community language. One may be forgiven for questioning the competence of EU authorising bodies for presiding over such an industrial level of failure.

To supply inadequate operating and maintenance manuals is as dangerous as supplying faulty tools. Incidents such as the Isle of Arran, P&OSL Aquitaine, CSL Pacific and the Arco Adur are testimony to this. However, with a lack of validated submissions for the IMO to consider and failure to regulate the current standards of operating and maintenance manuals, perhaps we need to accept that (from seafarer to delegate) there is a need for collective responsibility to bring about change.

**CHIRP 35** serves as an excellent reminder that after 10 years, the consequences of the international community's failure-to-act, as always, falls squarely on the shoulders of the seafarer.

---

## INCIDENT INVESTIGATIONS

We receive accident reports from the UK's Marine Accident Investigation Branch (MAIB).

The annual report for 2013 has been published. There were 842 Accidents involving 927 vessels that involved actual or potential casualties to ships. 27 investigation reports were published. 2 Safety Digests and 3 Safety Bulletins were also published. These are free to download from their website <http://www.maib.gov.uk>

Readers will notice a new format for the annual report. More extensive use of graphics and photographs, a more logical layout for the recommendations section and more detailed statistical information are designed to make the report more user-friendly for the casual reader and analyst alike.

Most injuries to merchant vessel crew occurred in vehicle cargo spaces, when climbing or descending stairs or ladders in areas away from the ship's accommodation, or in the engine room. (Note: These are areas where CHIRP does not receive any near miss reports from seafarers!).

---

## FOLLOW US ON FACEBOOK

We are encouraged by the enthusiastic response to our Facebook page and delighted to recognise the support from 1111 followers in 47 countries around the world. You are all helping us to make **CHIRP** more accessible to the global community of seafarers. We encourage more seafarers to join us. If you enter “Facebook CHIRP Maritime” into your search engine, you will easily find us; or use the link from our website [www.chirp.co.uk](http://www.chirp.co.uk)

**Since the last publication of Maritime FEEDBACK we have published short articles on:**

- Seafarer's shame – for safety's sake contact **CHIRP**.
- “Guidelines for Offshore Marine Operations (G-OMO)” has been launched.
- We continue to see lives needlessly lost when entering enclosed/confined spaces.
- Marine Operations and Maintenance Manuals ‘USELESS UNLESS READ’.
- Amended SOLAS Rules for Ships Enter into Force are now in force!
- Stability Guide for smaller vessels – free booklet published by the Danish Fishermen's Occupational Health Services.
- **CHIRP** Maritime is keen to help the Fishing industry.

We are grateful to the sponsors of the **CHIRP Maritime Programme**. They are:

- **The Corporation of Trinity House**
- **Lloyd's Register Foundation**
- **Britannia Steam Ship Insurance Association Ltd**
- **International Foundation for Aids to Navigation (IFAN)**