

Providing learning through confidential reports – an international cooperative scheme for improving safety

### MARS 200960

#### A fall down stairs

A newly-joined catering rating suffered chest and elbow injuries due to a fall down a stairway. The vessel was at anchor at the time of the accident, with wind conditions up to force 7 Beaufort scale with a 4-metre swell.

The chief cook had instructed the rating to bring some empty cartons from the provision store located a deck below. Soon after the rating left the galley, the cook heard the sound of a fall coming from the stairwell. He found the rating at the bottom of the stairs, rising to his feet with some difficulty. After recovering his composure, the rating claimed that while descending the stairs, empty-handed and holding the rail, his footing slipped and he lost his balance. He fell forward, hitting his chest against the railing and his elbow on the ladder steps while trying to protect his head from impact.

First aid was administered to the injured rating immediately. About two days later, he was examined by a shore physician, declared unfit for duty and had to be repatriated home.

A thorough root cause investigation was carried out after the accident, with the following conclusions:

1. There was evidence that the rating was not wearing his safety shoes properly and this was a contributory factor in the accident. The depressed hind-quarters of the rating's shoes indicated that he had only slipped his feet in without putting them on properly.
2. The rating had joined the ship one day prior to the accident after a long flight. It is possible that he might not have been very vigilant as a result of jet lag.
3. Effects of seasickness could also have been a contributing factor.

#### Lessons learned

1. It must be emphasised that any personal protective-equipment (PPE), including safety shoes, should be worn in the correct manner and any modification or misuse of PPE is against good seamanship and safety procedures.
2. In the case of safety shoes, these need to be:
  - the correct size – oversized shoes can come off easily;
  - worn properly with the laces secured tight.
3. Crew members should be especially careful when a new tour of duty begins; it requires some time to get familiar with new work environment, equipment or people.



▲ Figure 1: Depressed hind-quarters shows that the rating had failed to wear the shoes properly

4. Senior crew members should guide those with less experience in operational safety.

### MARS 200961

#### Improper lookout and bridge procedures damages seismic cable

A cargo ship that ploughed into a more than four-mile long seismic streamer array being towed by an offshore survey vessel has been judged to be two thirds responsible for the US\$25 million of damage caused.

Evidence indicated that loud music was playing on the bridge of the cargo ship at the time of the incident. The judge recounted other instances of improper bridge procedures on the vessel, including the failure to incorporate a navigation warning regarding the seismic survey into the vessel's passage plan, failure to mark the survey area on the chart, and a dangerous close-quarter situation with another vessel during the same passage. It was also surmised that the loud music prevented the bridge team from hearing the frequent VHF broadcasts by the support craft accompanying the seismic survey vessel.

Additionally, when the strobe lights of the streamer array were sighted at very close range, the cargo ship made an improper alteration to course to go across the array and failed to appreciate the significance of the strobe lights.

But it was also argued that the survey vessel used non-standard methods of warning shipping of the survey, failed to alert the cargo ship that she was running into danger and also failed to 'dive' the streamers to minimise damage when the rogue ship passed over them.

## MARS 200962

### Main engine turning gear damaged

One of our vessels sustained damage to its main engine turning and flywheel gears. The engineer on duty turned the main engine on air without being aware that the safety cut-out and remote indicator arrangements of the turning gear were not functional at that time and that the turning gear was in fact engaged to the flywheel.

#### Corrective/preventative actions

The fleet was instructed to make warning placards with the words 'Turning gear engaged' and to hang these at all manoeuvring stations and engine controls whenever the turning gear is engaged, irrespective of whether the safety devices are functional. These placards should be removed only after disengaging the turning gear.

## MARS 200963

### Wildlife souvenirs in baggage

One of our ship's staff was stopped by Australian customs for possession of an elephant tusk in his baggage while signing off. He had ignorantly procured these in an African port.

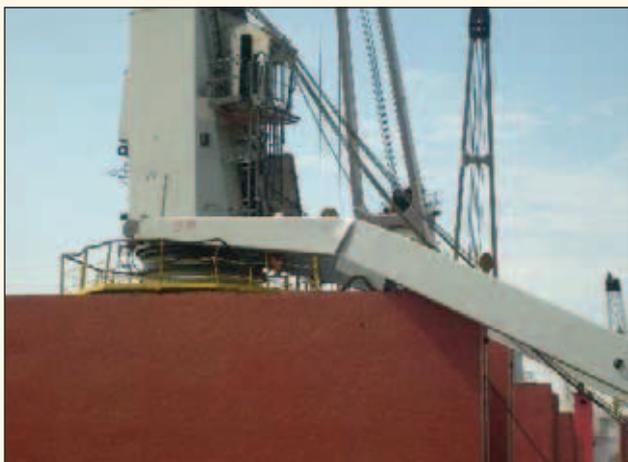
Trading in, or the possession of, wildlife parts and products is prohibited by many countries. Such articles may include, but are not limited, to elephant tusks, deer antlers, turtle shell, ivory in curio or jewellery form, articles of clothing made from fur or leather from certain endangered species. Certain wildlife products in food or medicinal form are also banned in some countries.

Seafarers must be warned about the consequences of buying or possessing wildlife products. While carrying out inspection of accommodation, senior officers must be vigilant in looking for any such items in crew cabins, particularly after sailing from regions where such souvenirs are sold in shops or even peddled by locals inside 'secure' dock areas.

## MARS 200964

### Deck crane damage

A shore stevedore operating a ship's cargo crane used the bypass key to override the jib luffing lower limit cut-off switch, so that the cargo sling could be landed at the desired spot on



▲ Figure 2: View of damaged crane jib

the wharf. This resulted in the jib lowering out of control, falling heavily on the open hatch covers and sustaining heavy damage.

#### Lessons learned

1. No one other than a responsible ship's officer should operate the crane limit bypass limit switches.
2. The bypass limit switch is provided only for the purpose of parking the jib on the crutch.
3. The bypass switch key must never be available in the crane cabin.

## MARS 200965

### Crew injured by pilot ladder

A general cargo-cum-log carrier in ballast was approaching the pilot station to embark the inward pilot. Being fitted with twin port and starboard hatch covers, and also the standard structures and fittings for the carriage of timber deck cargoes, the width of the upper deck between bulwark and hatch side coaming was extremely narrow.

There was a deckhouse near the pilot transfer point, but as the doorway was too narrow for the coiled ladder to be taken in, when not in use, it was the practice on board to hand-carry the coiled pilot ladder a distance of about 20 metres, past many obstacles, to be lashed in way of the accommodation. To rig the ladder, it had to be carried this distance back along the deck and, after securing the inboard rope ends to the deck padeyes, two seamen would lift the coiled ladder outboard over the bulwark and drop it to uncoil against the ship's side, a practice that was as punishing on the crew as it was on the ladder.

On this occasion, due to a sudden change of plan, the pilot had to be embarked from the side opposite that which had already been prepared. In a great hurry, two crew members scrambled to prepare the spare ladder, with the pilot launch already alongside and hooting impatiently.

In order to save time, while one seaman was stooping over and securing the end ropes, the other harried seaman began uncoiling the ladder and heaving sections of it overside. After about half its length was outboard, the remaining section of the ladder suddenly ran out of control, causing a flailing spreader to strike the first seaman's chin from below and inflicting a cut that needed three stitches.

Fortunately, the end ropes that had been just secured to the deck, held, and the dropping ladder narrowly missed the pilot launch with the pilot and his boat crewman stationed at the boat's inboard rail.

#### Lessons learned

1. Pilot ladders can be awkward and cumbersome to rig/unrig in restricted deck areas.
2. Sufficient manpower must be present for rigging and recovery.
3. A tool-box discussion must be held by the crew before each operation so that every person is aware of the exact procedure and actions of others.
4. As far as possible, pilot transfer arrangements must be decided in advance and last-minute changes avoided.

5. Pilots and bridge teams must avoid putting undue pressure on crew members carrying out a critical operation and hassled crew must resist the temptation to hurry through a task.

6. Naval architects must ensure that their designs incorporate safe and workable pilot ladder stowage, handling and rigging arrangements

7. Where practicable, owners/managers must consider retrofitting pilot ladder stowing reels or at the very least, provide a suitable deck trolley for the safe and efficient handling and stowage of conventional pilot ladders. This will not only avoid the hazards outlined above, but also preserve the pilot ladder from abuse, damage and soiling.

## MARS 200966

### Benefits of an extra officer

During an inspection, a port state control officer (PSCO) recorded his observation that there was evidence of high workload on the chief officer of one of our small tankers. The vessel trades in a short sea area, routinely carrying hazardous cargo and makes 100-150 port calls a year, with tank cleaning conducted on almost every voyage. The vessel had the normal complement of a master and three deck officers; nevertheless, our company decided to assign the vessel one extra (fourth) officer in response to the PSCO's findings.

However, despite recent legislation in some countries against the practice, and industry-wide knowledge of the dangers of over-worked and fatigued deck officers, there are still ships of similar type, size and trade, operating with only two watchkeeping officers.

The benefits of our company's action are many:

1. The chief officer is not a regular watchkeeper and due to reasonable working hours, can do a better job in managing cargo and maintenance operations.
2. Junior officers also have a less onerous workload since they do not get assigned some of the chief officer's tasks.
3. The master also has a reduced workload since some work can be delegated to junior officers.
4. We now have the time to train junior officers more effectively on board.
5. The chief officer also has more time for developing the skills required for taking over the rank of a master.
6. The time available for maintenance and safety work has increased – and this has really good long-term benefits.
7. Fewer adverse remarks are recorded by vetting inspectors who are pleased to see an extra officer assigned to ships.
8. The general health of officers has improved since they now have time to exercise and sleep more regularly;
9. The retention of personnel is significantly higher as officers get better job satisfaction and are more willing to continue in this career.
10. We do not need to overlap when new officers sign on.
11. Finally, work and rest periods can be honestly recorded by officers, who are free from pressures to manipulate this data.

In my view, the additional cost of the extra officer is paid

back very quickly, especially if seen against the costs of fatigue-related incidents and employing poorly trained and unmotivated personnel

## MARS 200967

### Crew injured due to wire sling parting

After receiving berthing instructions, an arrived vessel in the anchorage weighed her anchor. After the anchor was clear of the water, the anchor party, comprising the third officer, bosun and one AB, could not fully house the anchor in the hawsepipe, as a twist in the cable between the gypsy and the guide roller prevented the anchor from orientating properly. The crew temporarily left the anchor in this half-housed position and attended to the berthing.

After the berthing operation, the fo'c'sle party attempted to clear the twist in the anchor cable without informing the bridge or senior staff. The plan was to temporarily take the weight of the anchor on its lashing (wire sling) by 'walking back' the windlass in gear, and then rotate the slack chain between gypsy wheel and the guide roller to remove the twist; then to lower the anchor until it assumed the correct orientation.

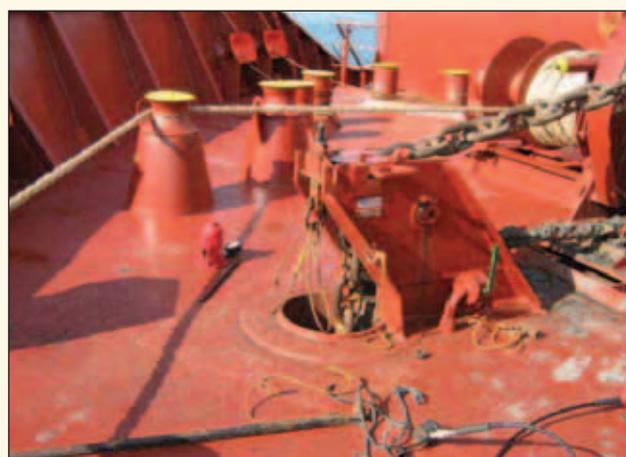
When the weight had been transferred to the wire sling, and the bosun was attempting to turn the slack chain, the wire lashing broke, causing the chain to jerk and hit him in the face, rendering him unconscious. He was revived and guided into the accommodation where he was examined by the chief officer before being taken to a shore hospital, where he was diagnosed with a broken cheekbone.

### Result of investigations

1. The master and senior officers were not informed of the hazardous task being attempted by the forward mooring party.
2. No formal risk assessment was carried out.
3. Two new wire slings of appropriate size had been recently supplied for securing anchors: the crew had not only failed to deploy them but had used a sling that was too small and also deteriorated due to age and exposure to the elements.

### Corrective/preventative actions

Recommendation that chain be used instead of wire slings for securing anchors.



▲ Figure 3: View of twist on anchor cable and parted wire sling

**Editor's note:** In the photograph on p 19, a crowbar is seen lying on the deck in the foreground. MARS 200531 (see MARS archives online) graphically illustrated the hazards of using inappropriate means to hold anchor chains. In that report, a crowbar was temporarily inserted into a link to jam it in the bow stopper when the brake could not hold the anchor cable that was under high tension. The crowbar sheared off and the Chief Officer died after being hit by a flying piece of the rod.

## Feedback

### MARS 200935

#### Eye injury due to burst hose

The author of MARS report 200935 is on the right track in recommending the wearing of safety glasses on deck, which is standard in the offshore oil industry.

However, the recommendation to remove anticorrosive tape is ill-advised on standard hydraulic fittings; the paint will not adhere to the fittings unless two-part epoxy paint is used. The problem would seem to be that the anticorrosive tape was not applied properly.

A far better solution would be to use stainless steel fittings so the hoses can be replaced easily at five yearly intervals.

The hoses should be tagged and changes and inspections documented. Personnel experience with a burst hydraulic hose on a cargo crane that put hydraulic oil into the harbour resulting in a \$US10,000 fine was a lesson painfully acquired. The fact that the hoses to the luffing rams were inaccessible without a cherry picker was considered immaterial.

## Feedback

### MARS 200941

#### Galley fire

A very valid topic and particularly good photos of the fire blanket (*Seaways*, July 2009). I am not disagreeing with one detail to be pedantic but the biggest hazard in using the blanket is exposure of the hands and wrists as the blanket is moved over the fire. Good blankets have a corner pocket sewn in; so the hand can be tucked in and ideally the wrist would be twisted to bring the blanket over to cover the forearms. In the past, if the blanket had no pockets, one would be sewn into each of the four corners. The same risk is found in kitchens ashore.

The cook in the photograph is holding the blanket quite gingerly between his fingers – the whole hand, well-wrapped, is wiser and less painful. This is a non-critical observation which may be useful to get best value from the blanket.

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MARS is strictly confidential and can help so many – please contribute.

**Editor: Captain Shridhar Nivas MNI**

Email: [mars@nautinst.org](mailto:mars@nautinst.org) or MARS, c/o The Nautical Institute, 202 Lambeth Road, London SE1 7LQ, UK

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