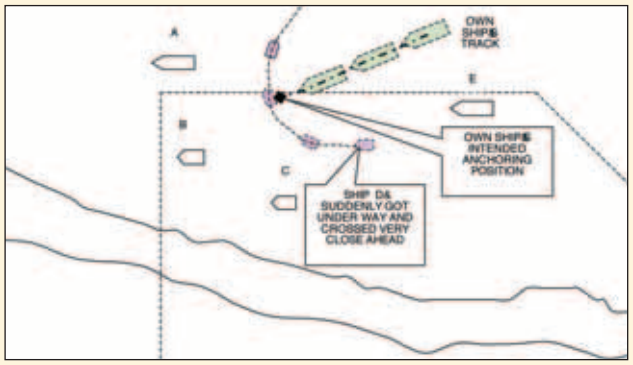
The Nautical Institute
Marine Accident Reporting Scheme
MARS Report No 189 July 2008

MARS 200845
Near miss while anchoring

Own vessel, a large, deep-draught loaded tanker, was proceeding to anchorage at night under VTS instructions. It was decided to anchor at least seven cables away from all vessels. The duty officer was on watch and the master had the con, with the helmsman on the wheel. During the final approach, we observed five ships at anchor (A,B,C,D & E as indicated in the figure below), all lying on westerly headings.

When four cables from the planned anchor position, with a speed of 1.8 kts, the bridge team noticed movement and propeller wash of ship 'D', a small cargo ship. Her ARPA vector also confirmed that she was making way and was on a near-collision crossing course. However, she continued to display all deck lights and anchor lights. Having received no information on the ship's movements, the OOW called her and inquired about her intentions, as own vessel was on her final approach to the designated anchoring position. As contact was established with ship 'D' on VHF, she switched off her anchor lights and switched on her navigation lights, although the deck lights were kept on. She informed own vessel that she would be leaving the anchorage by passing ahead of us.

We informed ship 'D' of our deep loaded condition, our intended anchor position and approach speed and requested her to keep a safe distance. Vessel 'D' acknowledged and agreed to abide. To our surprise and shock, however, she then proceeded to alter course very close across our bow. The master immediately ordered full astern on the engine to avoid a collision. Ship 'D' finally crossed own vessel's bow only 200 metres off. A verbal report was made to VTS.



MARS 200846
Electrical fire

On a ship at anchor, a crew member patrolling the decks at night observed smoke inside the accommodation and reported this to the bridge. The general alarm was sounded and the crew mustered.

The fire was the result of an electrical short circuit in the heater fitted around the wood frame of the door to the meat room. After isolating the electrical supply, a small water hose was used to extinguish the fire on the frame. The insulation and cladding around the door was subsequently removed and no further heat or damage was found.

Corrective actions

1. Fleet instructed to replace similar wood frames with non-flammable ones.

2. Fleet instructed to renew resistor wiring with better insulation covering.

Lessons learnt:

1. With most of the crew asleep at the time of the incident, the short duration of alarm signal failed to rouse many; consequently mustering at emergency stations was incomplete and unsatisfactory. Some were not in proper clothing. The general alarm should be sounded for at least 10 seconds and, at night, a much longer duration may be necessary.

2. This ship's fire detection system had a history of occasional false alarms. The brief alarm in this incident may have given the incorrect impression to those asleep that this was just another one of these.

3. No announcement was made on the PA system. This could have been used effectively to warn all hands that this was not a false alarm.

4. After sounding the alarm, the mate on watch left the bridge unattended and proceeded to his emergency station. This left the command and control centre of the ship unmanned at a critical time. Combined with the absence of an announcement as to the exact emergency, this meant that the emergency teams did not have proper information for several critical minutes.

5. There was no fixed smoke detector in the reefer space vestibule. The fixed detector in the passageway did not trigger until the vestibule door was opened. As nothing was showing on the smoke detector panel, the first crew members to respond did not know the location of the problem.

6. The reserve team was the only one to report a full muster. Once word on the nature and location of the emergency was passed on the hand-held radios, a number of crew proceeded directly to the scene rather than mustering at their assigned stations. As well as reducing their effectiveness, undermanned emergency teams can endanger themselves if the situation worsens.

7. On board the vessel, channel 1 onto hand-held radios had been allocated for emergency, while channel 6 was used for

normal operations. Some time was lost as teams tried to change to the emergency channel under adverse conditions. It was decided to use channel 6 only for all, routine or emergency communications.

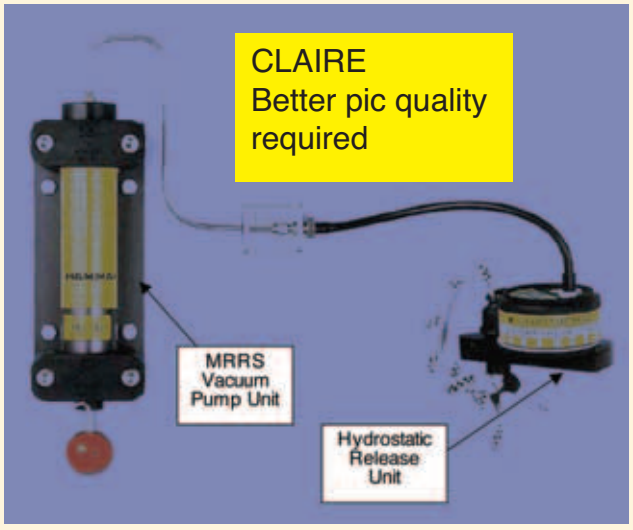
MARS 200847
Liferaft remote hydrostatic release malfunction

Official report: US Coast Guard Alert 4-07

An investigation into the circumstances surrounding a recent passenger ship grounding revealed difficulties the crew had in manually deploying the vessel's liferafts from their mounting cradles.

The liferafts were fitted with individual 'Hammar' manual remote release system (MRRS), with manually operated vacuum pump units. When operated, the pump evacuates a small bore pipe, actuating the corresponding hydrostatic release unit. In this case a large number of those pumps failed to activate the hydrostatic release units and, ultimately, the crew had to cut the liferaft canister lashings manually. The crew was able to launch all of the vessel's liferafts successfully in this manner.

The casualty investigation is not complete and additional recommendations are likely to follow. However in the interim, the United States Coast Guard strongly recommends that Hammar MRRS vacuum pump units, as well as all other survival equipment, be maintained in accordance with the manufacturer's recommended maintenance schedules.



MRRS pump units are clearly marked on the cylinder housing, 'Lubricate piston every second year'. The pumps that failed had not been lubricated as required. The malfunctioning MRRS pumps were replaced in kind with new units; USCG inspection showed that these operated properly.

Owners, operators, port engineers, inspectors and others involved in vessel safety should ensure that all appropriate steps are taken to properly maintain survival equipment

MARS 200848
Stowaways

Source UK P&I Club: www.ukpandi.com

Many stowaways give themselves up once the vessel is at sea. For a vessel discovering stowaways, the priority is for them to be disembarked at the next port of call. The master should therefore immediately inform the owner's P&I club or the nearest correspondent so that international formalities can be completed as soon as possible.

In addition, the master should be guided by the following:

1. Search the area where the stowaway was found for concealed documents etc;

2. Search the stowaway's clothing;

3. Interview the stowaway and immediately advise the owner, P&I club and the agents at the next port of call of the following recommendations:

- Port of embarkation
- Details of documents held
- Name
- Date and place of birth
- Address
- Nationality

4. Photograph the stowaway in order to speed the acquisition of travel documents. If digital photography is available, it may be possible to email the images to the agent or the P&I club's correspondent at the ship's next port of call.

5. Keep the stowaway secure at all times, particularly when the ship is in port.

6. While the stowaway is on board, the master should not provide work for the stowaway and the person must not be signed on to the ship's articles.

The company should immediately advise the P&I club of the above, together with: full itinerary; details of agents at future ports of call; and contact details of ship.

Masters should always bear in mind that stowaways frequently give false details in order to delay their removal from the ship. If the master believes that the stowaway is not telling the truth, he should so report. On discovering stowaways within containers, the master should inform the owners, P&I club correspondent, agents, the terminal and authorities at the load port, giving the container number, stow position and accessibility.

Urgent attempts must be made to communicate with the stowaways (if possible, record these conversations after determining the most suitable common language). Consider the following points in assessing the situation:

1. Number of stowaways;

2. Nationalities;

3. Health status;

4. Threat to the vessel and crew;

5. Requirements for food and water; consider drilling holes in the container to provide these, if feasible;

6. If practicable, divert the vessel to the nearest suitable port that can cater for the vessel and provide fast access to the container;

7. If the stowaways can be released from the container, ensure there are sufficient crew members to supervise them safely in a secure area;

8. Stowaways could be armed or be capable of violence towards the crew, or even outnumber them;

9. Liaise closely with the company and P&I club so that decisions are made jointly in the best interests of the safety of the ship and crew as well as the health and well-being of the stowaways.

MARS 200849

Fatal accident when operating ramp

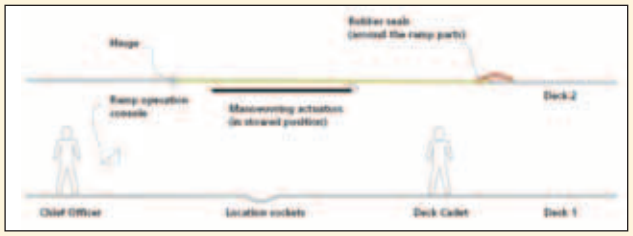
Source: SKULD Loss Prevention; 27 January 2005, Issue 03

During the operation of a hinged internal ramp onboard a ro-ro ship in port, it accidentally swung down on to the deck below and fatally injured a deck cadet.

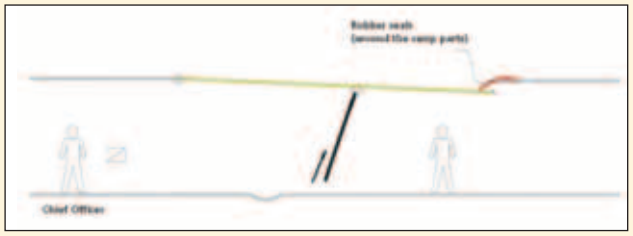
Probable causes

1. Rubber seal temporarily catching on fixed ramp section during lowering and then suddenly disengaging;

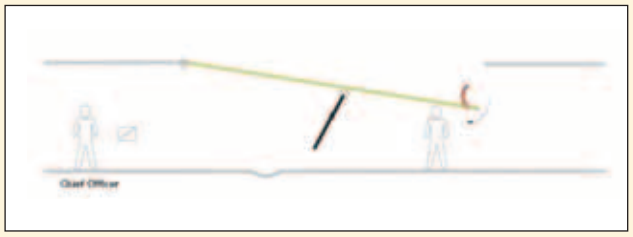
2. Dislocation of hydraulic actuators causing the free end of the ramp to fall down on to cadet standing underneath (see Figures 1–3).



▲ Figure 1: Arrangement of hinged internal ramp



▲ Figure 2: The rubber seal temporarily caught on the fixed section while the actuators continued to retract, causing them to come out of their location sockets.



▲ Figure 3: The rubber seal suddenly disengaged from the fixed section and swung down, resulting in fatal injuries to the cadet standing underneath.

Result of investigations

The chief officer (CO) and the deck cadet had just lowered an adjacent ramp. The CO, standing at the operating control console, did not have a full view of the ramp, but could see the cadet. The two manoeuvring actuators (ramp legs) were lowered down and placed in the location sockets on the deck below and the cadet confirmed that the ramp was ready for lowering.

The CO started lowering the ramp. It was down about 10 cm when the rubber seal probably caught on the fixed ramp section. The manoeuvring actuators continued to retract and came out of their location sockets, leaving the ramp hanging on the rubber seal only (Figure 2).

Then suddenly, the rubber seal disengaged from the fixed ramp section causing the hinged ramp to swing down on to the cadet (Figure 3).

Lessons learnt

1. Operating ramps on ro-ro ships form one of many operations of mechanical equipment and systems on board that pose hazards. These hazards should be systematically identified and control measures taken, including evaluation of the equipment, operating procedures and training for use of the equipment as required in the ISM Code.

2. Never stand underneath ramps when they are operated or unsecured.

3. To avoid similar accidents ensure:

- Correct sequence of operation in order to reduce the possibility of rubber seals catching and to avoid any obstruction to the operators view.
- The operator should check that all personnel are clear of the ramp before any operation.
- All personnel, especially those new to the vessel, must be thoroughly trained in ramp operations.

MARS 200850

Ramp door near miss

During her maiden voyage, the CO of a new ro-ro ship was preparing to set the stern quarter ramp door for cargo operations. After confirming from crew members located at several internal decks that all the cleats were fully open, he operated the hydraulic winch control at minimum speed to gently open and lower the ramp door.

Instead of a controlled, slow, movement, the winch started to pay out at a very high speed, causing the 80-tonne ramp door to accelerate in a free fall towards the wharf. Moving the remote control lever to stop position had no effect as the winch continued to pay out freely, and the mechanical brake was unable to check the momentum. Responding to the shouts overheard on the portable VHF radios the master, who was busy with arrival formalities, ordered the CO on the VHF to move the winch control lever to 'full hoist' position, while he rushed towards the after deck.

On moving the winch control lever to 'full hoist', the winch responded by gradually slowing down in its rotation, stopped briefly and then slowly began to hoist the ramp inwards. The location of the operating console was about 20 metres from the winch and, with the CO stationed there, the master, who was at the winch, observed that there appeared to be a mismatch between the remote control lever and the actuator control on the winch. As soon as the ramp door reached the closed position, the master ordered all the securing cleats to be locked and the winch's emergency stop button was activated.

Result of investigations

Foreign matter (pieces of rag and chipped weld bead) in hydraulic oil in the winch control circuit was found lodged in winch's lowering actuator. This kept keeping the valve stuck open, regardless of the control lever's position.

Lessons learnt

1. Hydraulic systems must be kept scrupulously clean and lines that are open during installation and/or maintenance must be adequately covered to prevent entry of foreign matter.

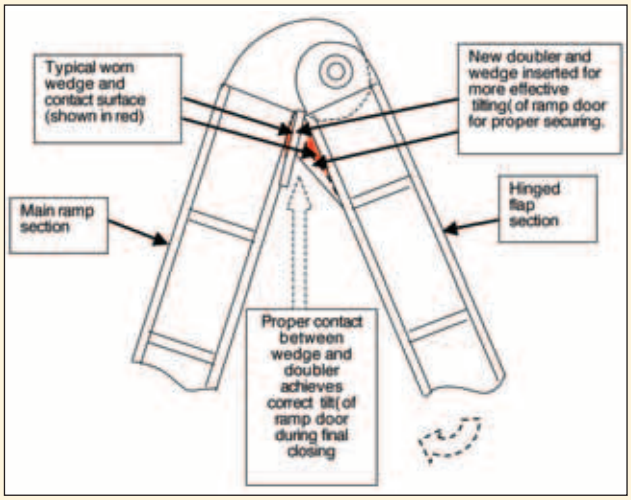
2. Before ramp door operations, with the ramp secured and the winch drive out of gear if possible, the movement of winch actuators must be confirmed to be in synchronisation with the remote control lever.

3. Magnetic and barrier filters must be regularly opened up and cleaned or renewed as per maker's instructions.

MARS 200851
Ramp door malfunction

On joining an elderly ro-ro vessel, I was somewhat surprised to see two chain blocks permanently rigged near the quarter ramp door external cleats. I was told by the CO and Bosun that the hinged ramp door could not be hove in fully, and that the final heaving and tightening was done with two crew members jointly hauling on the two chain blocks hooked on to the hinged flap. Besides the safety risks involved in two crew members leaning awkwardly from the securing platforms on the stern while trying to 'hook on' the chain blocks to the ramp, uneven tightening of the chain blocks could impose high torsional loads on the hinges and in turn, compromise the effective sealing of the ramp door against the hull.

During a day-long experiment on a rare day at anchor, we worked the ramp door in and out several times and eliminated diverse causes such as possible wrong rigging, elongation of wire ropes, malfunction or wrongly adjusted limit switches etc. We finally identified the cause. In the original design, the hinged flap section had a series of triangular wedges welded along the inboard edge. These were meant to engage against the outboard edge of the main ramp section during the final folding movement of the hinged section, slowly tilting the ramp door so that the securing lugs would come closer to the drop cleats. These 'contact areas' were considerably worn down and the plate edge even torn in some places, but being on the lower side of the ramp when landed on the shore, the defect was not readily noticeable.



▲ Making the ramp door operable

A new set of wedges and small doublers was quickly fabricated in the engine room workshop and immobilisation and hot work permits were obtained at the next berth the following day. Soon after cargo operations were completed, with the ramp suspended sufficiently clear over the wharf, the ship's staff went under it and quickly cropped away the small damaged sections and welded on the new inserts. For the first time in many years, the ramp door was operable normally and the unsightly chain blocks were returned to the store.

Feedback

MARS 200814

Propeller damaged by own refuse

I'm somewhat surprised that this report has been issued without any comment. Surely, there is some convention which precludes dumping waste of this sort at sea?

Even if there isn't, I would imagine the company's environmental policy might (should?) preclude this sort of action. In any event, the report tries to give advice but actually demonstrates what a reckless operation took place, without any safe management. Amazing.

Editor's note: Marpol does not specifically address discarded ship's spares under its annexes, but such refuse may reasonably be considered as 'operational waste' under Annex V (Garbage), provided they do not contain or are not 'contaminated' with substances that come under any of the other annexes: oil, noxions fluid substances (NLS), harmful substances, sewage and environmentally damaging substances. The dumping of the discarded heat exchangers on the 'high seas' in this case did not contravene Marpol if it were done more than 25 miles from nearest land outside special areas. However, lack of seamanship, prudence and internal communications seem to have been the main reasons for the damage sustained by the propeller.

Feedback

MARS 200824

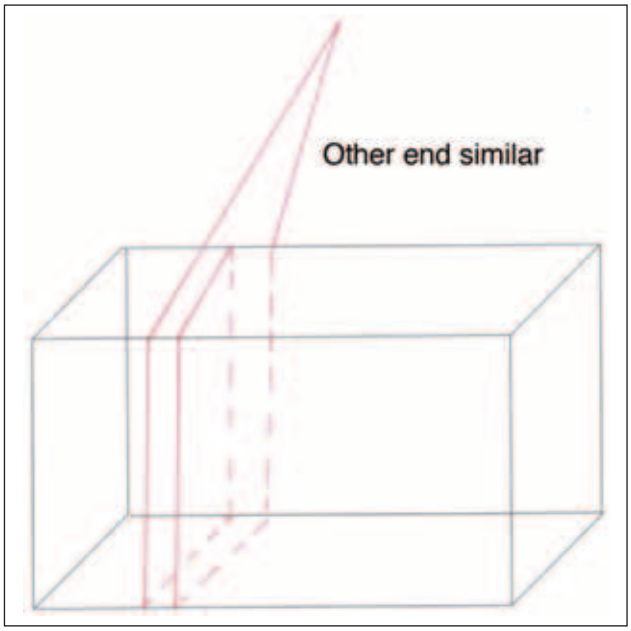
Crate dropped during lowering

There are various comments on this in the entry but I would take this opportunity to point out the following:

The value of the goods contained within the crate can easily be established but, where the centre of gravity of the contents is (or was) a mystery.

Based on the foregoing statement, the suggested method of proper slinging was incorrect as shown in the diagram.

The only positive method of restraining any movement would be to sling it as shown in the following diagram. This method is an age-old traditional method known as a 'body and soul' slinging arrangement.



Editor's note: While this arrangement is technically superior, it was mentioned in the incident, that the case was unusually tall, which would probably mean that each of the pair of slings required would measure upwards of, say, 15 metres in length. Unless such slings have been provided by the maker, it would be rather difficult to quickly produce a pair of suitable length and capacity on a modern gearless vessel. The arrangement suggested by the Editor involves shorter slings and the 'tightening procedure' usually needs a person to hold or 'tap' down the unloaded eye as the weight is taken by the lifting appliance. This method has been successfully used by stevedores the world over for decades, if not centuries.