The Nautical Institute
Mariners' Alerting and Reporting Scheme
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Providing learning through confidential reports – an international cooperative scheme for improving safety

MARS 2010001
Grounded on spoil ground

After arriving at a minor far-eastern port, a VLCC drawing 19.5 metres made several attempts to contact port control in order to obtain a designated safe anchoring position. This was considered necessary as there appeared to be conflicting advice between the international and local navigation charts and that provided verbally by the agent. Being unable to get advice from shore authorities, despite repeated calls, the master decided to rely on the international chart and anchored at the recommended position.

The next day, the vessel picked up anchor and proceeded towards the pilot station on a flood tide. Weather conditions were good with clear visibility. Proper monitoring of the vessel's position was carried out. Suddenly, without warning, and with some miles still to go to the pilot station, the vessel ran aground. The vessel's speed at time of grounding was 5.8 knots in charted water depths of between 24-27 m. Taking into account the height of tide at the time and the vessel's draught, the vessel should have had at least 3.0 m under-keel clearance (UKC), about 15 per cent of the draught. Fortunately, there was no damage to the vessel and no pollution.

What went wrong

1. After a detailed investigation, it was realised that the vessel ran aground in an uncharted dumping ground, where local barges had been discharging mud, sand and/or other unknown spoil;

2. No information relating to this activity was circulated. Subsequently, the harbour pilot confirmed that the minimum depth in the area was 20 m at low water.

Root cause analysis

The main cause of the incident was an unmarked shallow patch of water. Local changes in hydrographic data had not been adequately promulgated. The root cause was therefore found to be lack of standards.

What went right

1. The vessel's charts and publications were corrected and updated to the latest Notice to Mariners available at the time;

2. All safety management systems (SMS) procedures were complied with throughout the passage. Effective planning for the passage was carried out by the master and officers. A pre-arrival tool-box meeting was carried out during which passage plan and cargo operations were discussed;

3. Proper monitoring of the vessel's position was carried out. In addition, after the grounding, the action taken by all on board the vessel was very professional and this resulted in the vessel being refloated without any damage or pollution.

Corrective/preventative actions

1. A detailed review of all ports in the region is being carried out to assess the risks to company vessels. This will include a detailed risk assessment with regard to safety of operations during future port calls.

2. A review of procedures with regard to usage of local navigational charts is being carried out.

3. In addition, procedures have been implemented with regard to enhanced monitoring of voyage orders, particularly when calling at ports with draught limitations.

4. Information has been provided to international hydrographic offices with details of the shallow patch of water.

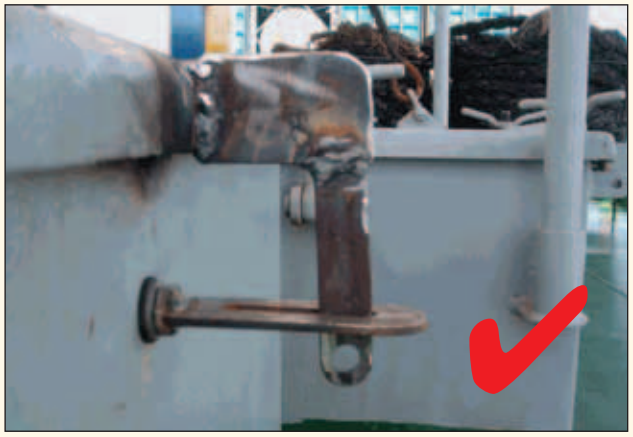
■ **Editor's note:** In the interests of safety and pollution prevention, mariners should note the approximate position of this spoil ground as lat 22°23.24N, long 114°42.21E.

MARS 2010002
Escape hatch securing

The first photograph (p 18) shows a commonly-used method of ensuring that an emergency escape hatch is secure against unauthorised entry from outside; in this case, the lid is tied down with a synthetic fibre rope that can be undone from inside during an emergency. On some vessels, wire rope and/or chains may be similarly used. However, such securing methods prevent entry from the outside through the same hatch, which may be necessary for fire-fighting. Subsequent photographs, show an alternative arrangement that satisfies both safety and security requirements.

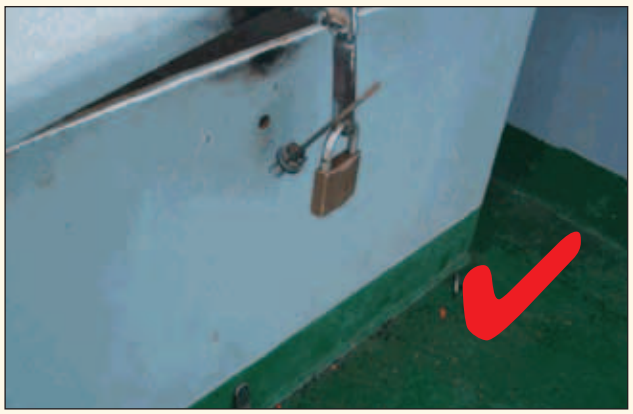
■ **Editor's note:** Some ships prefer to use corrosion-resistant combination locks instead of padlocks, the combination being known to all the crew. MARS 200429 has more suggestions for securing escape hatches correctly.

▲ Figure 1: Hatch tied down with rope may be unopenable from outside for entry during fire-fighting operations



▲ Figure 2: Escape hatch with hasp and eye lug

▲ Figure 3: Hasp is fitted with a wing nut that can be easily undone from inside. (Note photo-luminescent instruction sign and paint on wing nut)



▲ Figure 4: Padlock, lug and hasp fall way when wing nut is fully opened from inside. For emergency entry from outside, padlock can be opened by its key in the normal manner.

MARS 201003

Chemical cargo hose rupture

A chemical tanker was loading a cargo of paraxylene simultaneously into two tanks. To facilitate this, a jumper hose was inserted between the manifold connections of the two tanks on the offshore side manifold. Soon after the change of watch at midnight, the deck watch rating reported a minor (pinhole) leak on the jumper hose which rapidly developed into a major rupture. He immediately activated the shore emergency shut down (ESD) device. The terminal was advised of the situation, confirmed that the shut down had been effective, and the authorities and company were informed about the incident. No abnormal manifold pressures were noted at any time prior to or at the time of the hose failure.

As a result of the hose failure, some 100 litres of cargo spilled into the manifold drip tray and approximately 20 litres overflowed on to the main deck. The cargo quickly solidified as the ambient temperature was below the melt point of the cargo and no cargo was lost overboard.

Root cause/contributory factors

1. Inadequate SMS procedures for proper pressure-testing of cargo hoses. However these hoses had been tested as per the practice that existed at the time of testing;

2. Inadequate SMS procedures for physical examination of hoses prior to use. The jumper hose's outer coiled wire sleeve was evidently rusty and it had been stowed for a prolonged period in an exposed location on the catwalk;

3. There was evidence that the use of rope slings to lift the jumper hose in the past had probably caused the coiled wire sleeve to be displaced, causing the hose to kink in places. In addition, the hose sling or bun was not used properly to distribute the load more evenly over the width of the sling;

4. Improper maintenance – the procedure of flushing of the hose with fresh water and drying was not followed properly after previous cargo operations;

5. Exposure to elements – the jumper hose was not covered to protect against sea water / sun which could have accelerated general deterioration;

6. Improper length – the jumper hose was probably longer than optimum length and the resulting sharp nip resulted in kinking of the hose.

Corrective/preventative actions

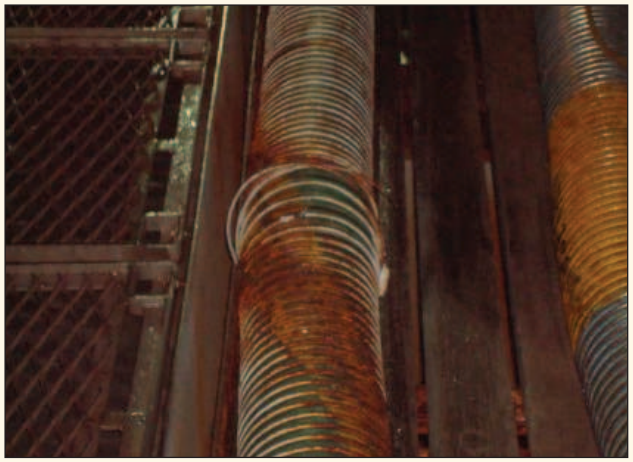
1. Following the failure of the hose, all the other hoses were hydraulically pressure-tested. During the test, one more cargo hose developed a pinhole leak; this was disposed of ashore. Additionally, some hoses were also landed for further testing and certification.

2. Recommendation to use only jumper hoses of optimum length.

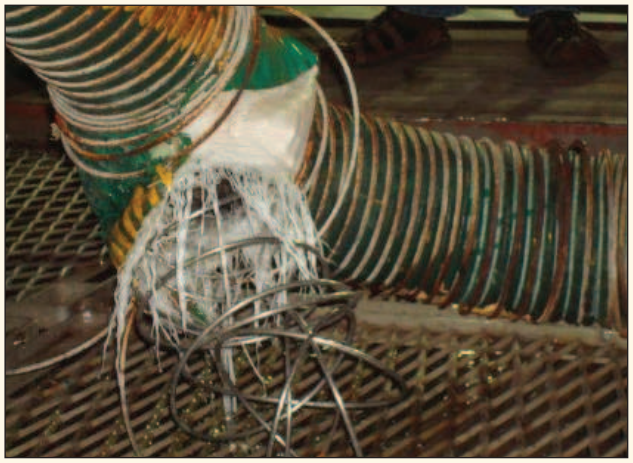
3. All hoses supplied subsequently were equipped with permanent hose handling slings.

4. Suitable amendments have been made to the company SMS.

5. Information was being promulgated to the fleet by way of a safety bulletin to avoid a recurrence; it was also shared with the industry.



▲ Figure 5: View of hoses stowed on catwalk showing corrosion and displacement of the external coiled wire sleeve



▲ Figure 6: View of rupture on cargo jumper hose

MARS 201004

Grounded on charted wreck

Official report: from the UK Marine Accident Investigation Bureau (MAIB) accident flyer 1-2009

While sheltering off the port of Dover in heavy weather conditions, a passenger ferry grounded on a charted wreck. She sustained major damage, including the total loss of her port controllable pitch propeller hub and a section of tail shaft. The ferry was on a fixed service between Dover and Calais, and the occasional closure of either port was a feature of the run, especially during winter months. The ferry operator had produced comprehensive passage plans between ports served by the vessel. In addition, there was a selection of plans for other probable sea passages. However, there were no contingency plans produced that suggested where the vessel should wait in the event of a closure of one of the regular ports.

On this occasion, Dover port closed just before the ferry arrived within port limits. Consequently, she proceeded towards the master's preferred holding area, which was the Downs off Deal, Kent, to await the port reopening. The Downs area is quite restricted in the available sea room and surrounded by shallow waters and banks. During the waiting period, procedures and bridge team management became ineffective in that:

1. No passage plan was developed; dangers and hazards not identified; and 'no-go' areas were not marked on the chart;

2. Paper charts were the primary means for navigation. However, positions were only sporadically plotted and the paper chart was not consulted at the crucial time;

3. The OOW was changed on an ad-hoc basis, and the handovers were not structured, so important information might have been lost;

4. Navigation was conducted by eye and by reference to an electronic navigational chart display (ENC). None of the bridge team had been trained in the use of ENC, and the settings were inappropriate, such that key dangers would not have been displayed;

5. Throughout the waiting period, there were a number of telephone calls to the bridge, principally regarding matters affecting the vehicle decks, which distracted the bridge team from their primary function of navigation and lookout.

Safety lessons

1. Charts covering likely contingency waiting areas should be prepared and ready for use before the start of the voyage. They should include clearly marked dangers and hazards.

2. The principles of effective bridge team management should be understood and practised at all times.

3. When additional aids to navigation, such as electronic navigational systems, are fitted to the vessel, the operators should be given effective training in the use and limitations of the equipment, even if the equipment is not intended to be the primary means of navigation.

4. Where navigation bridges are the focus for frequent requests for non navigational-related information, systems should be in place to ensure that watchkeeping staff is not distracted at critical times.

▲ Figure 7: Damage sustained by ferry's propeller

■ **Editor's note:** Further details on the accident and the subsequent investigation can be found in the MAIB's investigation report, which is posted on its website: www.maib.gov.uk

MARS 201005
Man overboard

A launch was to transfer two persons to a vessel at anchor, via the accommodation ladder lowered with its bottom platform near the water level. After they were transferred to the ladder lower platform, the coxswain brought the launch close in so the launch crew member could transfer some items of baggage to them. During this operation, the launch's stern came under the accommodation ladder's lower platform and raised it in the rising sea/swell. As the launch pulled away, the ladder dropped suddenly, resulting in one of the transferred persons losing his footing and hand-hold. He fell into the sea but was immediately rescued by the launch's crew.

Root cause/contributory factors

1. Lack of planning – during arrival pre-transfer conference between ship and launch, it was decided to use the accommodation ladder only without considering other options, such as pilot or rope ladder, personnel basket and crane;

2. The launch was not manoeuvred correctly, permitting the stern section to go under the lowered platform;

3. The launch design was poor for the transfer of personnel, having no support rail on deck;

4. The accommodation ladder lower platform fender was improperly rigged;

5. Life vests were not supplied by the launch service nor offered by ship's crew, against company procedures;

Preventative actions

1. Careful judgment is to be made on the deployment of safe access. Where there is the possibility of a sea or swell that could allow the launch to make contact with the platform, a conventional pilot ladder or combination accommodation ladder is to be used.

2. A life vest must be made available, and personnel strongly encouraged to wear it during transfers.

3. Baggage should not be handed from launch to persons standing on the lower platform of a ladder; instead it should be hauled up using appropriate means, manually on messenger lines lowered from deck or by crane and sling.

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You can save a life, prevent injury and contribute to a more effective shipping community.

Everyone makes mistakes or has – or sees – near misses. By contributing reports to MARS, you can help others learn from your experiences. Reports concerning navigation, cargo, engineering, ISM management, mooring, leadership, design, training or any other aspect of operations are welcome, as are alerts and reports even when there has been incident.

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

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